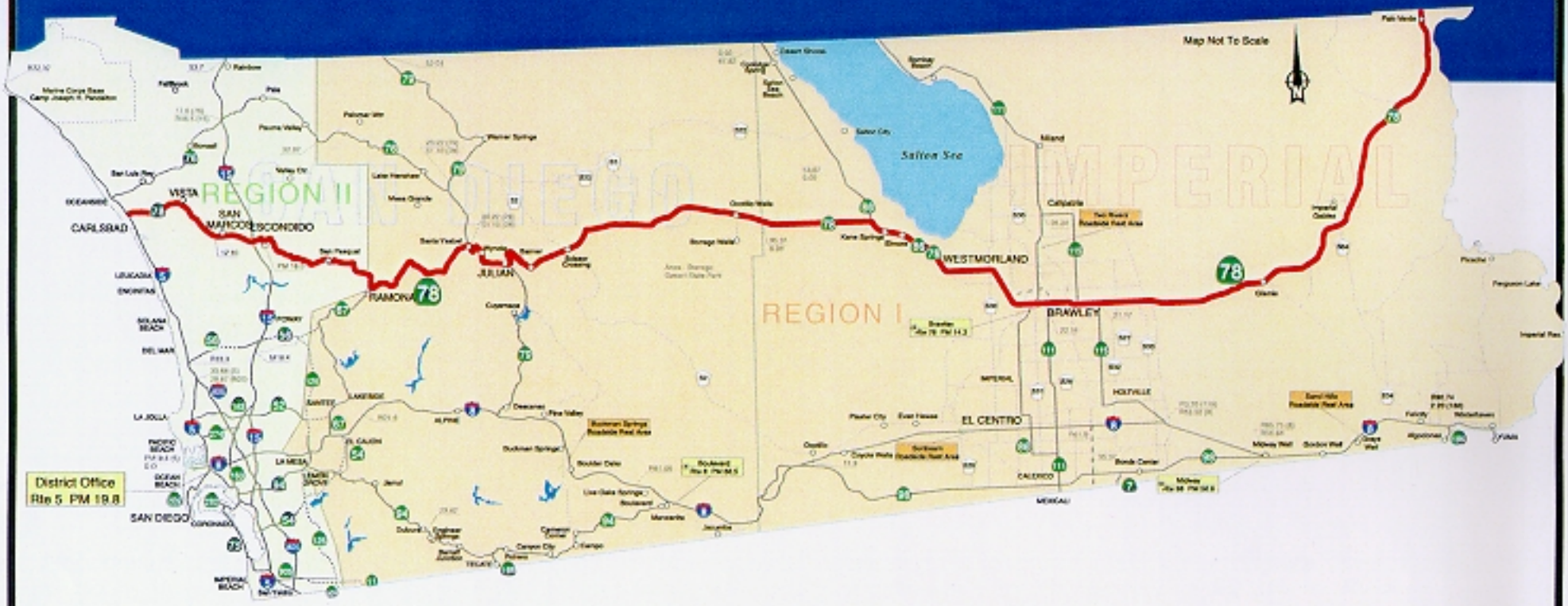
DISTRICT 11
SR-78 TRANSPORTATION CONCEPT REPORT



State of California Department of Transportation
District 11 - Planning - September 1998
2829 Juan Street - San Diego, CA. 92110

Map Not to Scale

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TRANSPORTATION CONCEPT SUMMARY
STATE ROUTE 78 (SR-78)
11-SD-78 P.M. 0.0-95.3
11-IMP-78 P.M. 0.0-80.7

This Transportation Concept Report (TCR) is a planning document which describes the Department's basic approach to the development of a given corridor. Considering reasonable financial constraints and projected travel demand, this TCR establishes a 20 year transportation planning concept for State Route 78 (SR-78) and identifies modal transportation options needed to achieve the concept. The concept considers operating levels of service (LOS), modal improvements, and new technologies. The TCR also considers potential long term needs for the corridor beyond the 20 year planning period. The long term needs focus on the Post-2020 Ultimate Transportation Corridor (UTC).

The TCR is a preliminary planning phase that leads to subsequent programming and the project development process. As such, the specific proposed nature of improvements (i.e., number of lanes, access control, etc.) may change in later project development stages, with final determinations made during the project study report (PSR), project report (PR), and design phases.

Each TCR must be viewed as an integral part of a planned system. The TCR is based on the completion of the 20 year system. The system has been developed to meet anticipated travel demand generated from regional growth forecasts. Removal of any portion of a route from the system will adversely affect travel on parallel or intersecting routes.

The TCR is prepared by Caltrans District staff in cooperation with local and regional agencies. They will be updated as needed, as conditions change, or as new information is obtained.

The focus of the TCR is the 2020 Transportation Concept, which includes State highway, transit, system management and travel reduction, goods movement, international border, aviation and nonmotorized components.

ROUTE DESCRIPTION

The western terminus of State Route 78 (SR-78) is in San Diego County at the junction with Interstate 5 (I-5), Post-Mile (P.M.) SD 0.0. The San Diego County portion of SR-78 extends 153.5 kilometers (km) (95.4 miles) east to the Imperial County line (P.M. SD 95.3). SR-78 is 131.6 km (81.8 miles) in length in Imperial County, and extends from the San Diego County line (P.M. IMP 0.0) to the north junction of the State Route 86 (SR-86) (P.M. IMP 13.17). At this point, there is a 24 mile route break of SR-78 between the north junction of SR-86 and the south junction of SR-86 (P.M. IMP 13.18E). Between P.M. IMP 13.17 and P.M. IMP 13.18E, the two routes share the roadbed, however this section is statutorily designated solely as SR-86. At this point,

SR-78 again utilizes an independent alignment to the Riverside County line south of Blythe (P.M. IMP 80.7). Outside the District 11 jurisdiction, the route continues an additional 16.2 miles in Riverside County and terminates at Interstate 10 (I-10) in Blythe.

SR-78 was added to the State Highway System in 1933. In 1959, the entire route was added to the Freeway and Expressway (F&E) System.

PURPOSE OF ROUTE

SR-78 is a principal east-west route which serves interregional, intraregional, commuter and recreational travelers as well as interregional goods movement. In San Diego County, SR-78 traverses the cities of Oceanside, Vista, San Marcos and Escondido. The portion from P.M. R16.5 to 24.0 carries local traffic within Escondido and extends eastward to serve the communities of Ramona, Julian and provide a northerly extension to Borrego Springs. The western portion of the route between Oceanside and Ramona is a major commuter route. The remainder of the route in San Diego County serves outlying rural communities and recreational areas, including the Cleveland National Forest, Cuyamaca Rancho State Park and Anza-Borrego State Park.

SR-78 serves interregional, goods movement and recreational traffic in Imperial County. It traverses the cities of Westmorland and Brawley and passes through the small rural communities of Alamorio, Glamis and Palo Verde before crossing into Riverside County. It provides access to the Salton Sea Recreational Area and the Sand Dunes Off-Road Vehicle Areas. SR-78 intersects a number of State Routes, including I-5, I-15, SR-67, SR-79, SR-86, SR-111 and SR-115, prior to passing the District 11 boundary and terminating at I-10. The closest parallel State Routes to SR-78 in San Diego County are SR-76, which varies between two and 15 miles to the north, and partially constructed SR-56, which is 15 miles to the south. In Imperial County, the closest parallel State Route to SR-78 is I-8, which is approximately 36 miles to the south. Parallel arterial streets other than State highways are discussed later in the Highway Component of the Concept Rationale section. The existing facility and operating conditions for SR-78 are shown in Table S-1.

TABLE S-1
EXISTING FACILITY AND OPERATING CONDITIONS

	Segment/ County/ Post Mile	Location	# of Lanes/ Facility Type	1997 ADT*	Peak Hour D/C Ratio	Peak Hour Operating LOS
1	SD 0.0 - 5.9	I-5 to Melrose Drive	6F	117 400	0.87	D
2	SD 5.9 - 12.1	Melrose to San Marcos Boulevard	6F	108 900	0.83	D
3	SD 12.1 - R16.5	San Marcos Boulevard to I-15	6F	140 900	1.10	F0
4	SD R16.5 - T17.7	I-15 to Broadway	4F	65 100	0.82	D
5	SD T17.7 - 19.2	Broadway to Oak Hill Drive	4C	18 100	0.40	B
6	SD 19.2 - 22.8	Oak Hill Drive to Via Rancho Parkway	2C	10 000	0.51	C
7	SD 22.8 - 24.0	Via Rancho Parkway to Wild Animal Park	2C	9 100	0.49	C
8	SD 24.0 - 33.8	Wild Animal Park to Haverford Road	2C	6 500	0.44	B
9	SD 33.8 - 35.5	Haverford Road to SR-67	2C	8 500	0.37	B
10	SD 35.5 - 37.3	SR-67 to 0.3 km (0.2 mile) east of Magnolia Avenue	4C	12 400	0.31	B
11	SD 37.3 - 51.1	0.3 km (0.2 mile) east of Magnolia Avenue to north junction SR-79	2C	5 300	0.25	B
12	SD 51.1 - 95.3	North junction SR-79 to Imperial County line	2C	1 600	0.07	B
13	IMP 0.0 - 13.2	San Diego County Line to north junction SR-86	2C	600	0.03	B
14	IMP 13.2E - 13.8	South Jct. SR-86 to west junction SR-111	4C	21 700	1.05	F
15	IMP13.8 - 15.0	West Jct. SR-111 to east jct. SR-111	4C	16 000	0.86	E
16	IMP 15.0 - 18.7	East Jct. SR-111 to west jct. SR-115	2C	3 300	0.15	B
17	IMP 18.7 - 21.0	West junction SR-115 to east junction SR-115	2C	2 900	0.14	B
18	IMP 21.0 - 80.7	East junction SR-115 to Riverside County line	2C	1 500	0.07	B

* ADT (Average Daily Traffic) shown is a five-day ADT derived from seven-day ADTs developed by Caltrans' Traffic Census.
6F = Six lane freeway
4C = Four lane conventional highway
D/C = Demand to Capacity

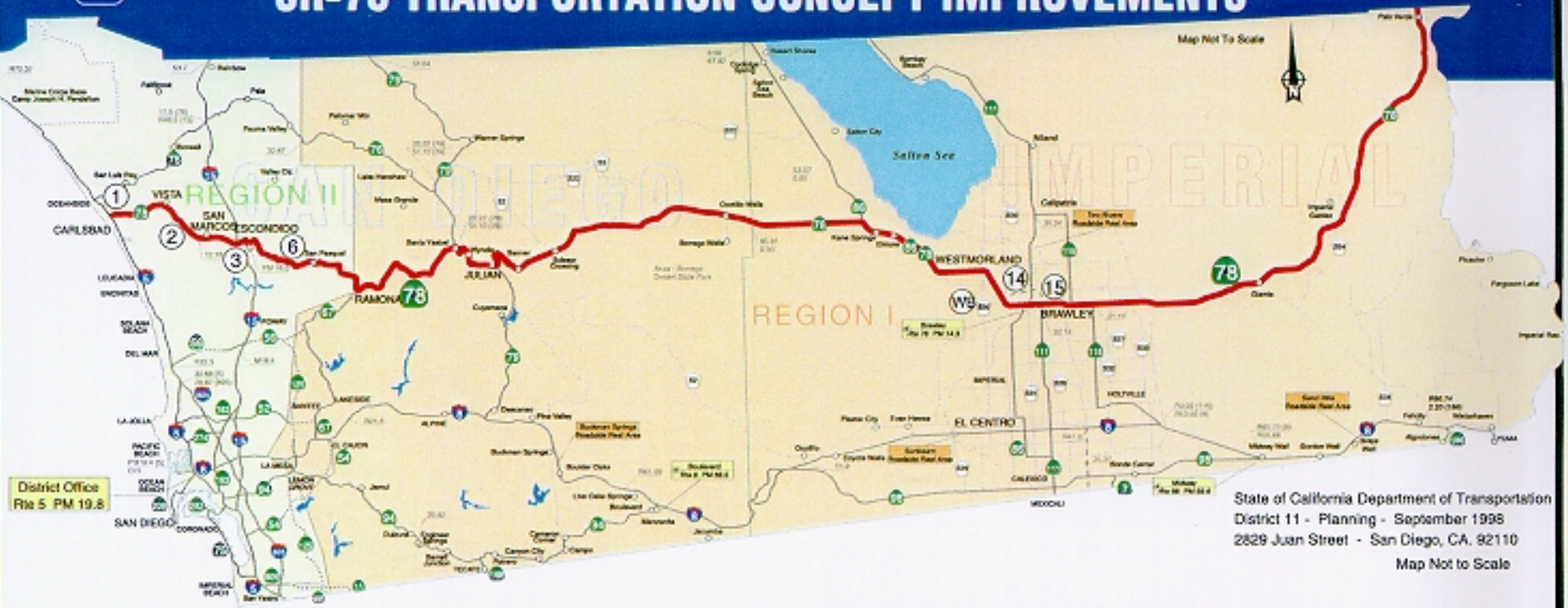
2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Table S-2 shows improvements to SR-78 that are part of the 2020 Transportation Concept. This table does not include projects currently under construction. The peak hour D/C ratio and peak hour Operating LOS listed assume completion of the proposed highway improvements.

TABLE S-2
2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Segment/ County/ Post Mile	Location	Improvement Description	Peak Hour D/C Ratio	Peak Hour Operating LOS	Concept LOS
1 SD 0.0	I-5/SR-78	Revise Interchange	1.34	F1	F0
1 SD 1.5 -3.3	Rancho Del Oro/SR-78	Construct new interchange	1.34	F1	F0
1 SD 0.0 -5.9	I-5 to Melrose Drive	TransNet Corridor Reserve Projects*	1.34	F1	F0
2 SD 5.9 - 12.1	Melrose Drive to San Marcos Boulevard	TransNet Corridor Reserve Projects	1.28	F1	E
3 SD 12.1 - R16.5	San Marcos Boulevard to I-15 Oceanside to Escondido (North County Fair)	TransNet Corridor Reserve Projects Light Rail	1.43	F2	E
6 SD T19.2 - 22.8	Oak Hill Drive to Via Rancho Parkway	Upgrade from 2C to 4C	0.80	D	E
14 IMP L7.2 - L10.8	SR-86/Fredricks or Del Rio to new west junction SR-111	Construct 4E (Brawley Bypass)	0.21	A	D
15 IMP L10.8 - L14.2	New west junction SR-111 to junction existing SR-78 east of Best Road	Construct 4E (Brawley Bypass)**	0.21	A	D
IMP (undetermined)	SR-86 west of Westmorland to SR-86/Fredricks or Del Rio	Construct 4E (Westmorland Bypass)	0.14	A	D

DISTRICT 11
SR-78 TRANSPORTATION CONCEPT IMPROVEMENTS



Segment/County/ Post Mile	Location	Improvement Description	Peak Hour D/C Ratio	Peak Hour Operating LOS	Concept LOS
1 SD 0.0	I-5/SR-78	Revise Interchange	1.34	F1	F0
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14 IMP L7.2 - L10.8	SR-86/Fredricks or Del Rio to new west junction SR-111 Construct 4E (Brawley Bypass)	Construct 4E (Brawley Bypass)	0.21	A	D
15 IMP L10.8 - L14.2	New west junction SR-111 to junction existing SR-78 east of Best Road	Construct 4E (Brawley Bypass)	0.21	A	D
IMP (undetermined) (WB)	SR-86 west of Westmorland to SR-86/Fredricks or Del Rio	Construct 4E (Westmorland Bypass)	0.14	A	D

LOS = Level of Service
D/C = Demand to Capacity Ratio

* A complete listing of these projects is shown in Table 12.. Additional non-capacity increasing shorter term projects are shown in Caltrans Status of Projects listing.
** Upon completion of the Brawley Bypass, Segments 14, 15 and a portion of Segment 16 of SR-78 (PM 13.2 - 15.5) will be relinquished to the City of Brawley or the County of Imperial.
Concept LOS is based on the SANDAG CMP minimum LOS standard and Caltrans system planning guidelines.

TRANSPORTATION CONCEPT REPORT
STATE ROUTE 78 (SR-78)
11-SD-78 P.M. 0.0-95.3
11-IMP-78 P.M. 0.0-80.7

INTRODUCTION AND STATEMENT OF PLANNING INTENT

The system planning process consists of three products: the District System Management Plan (DSMP), the Transportation System Development Plan (TSDP), and the Transportation Concept Report (TCR).

The DSMP describes how the District intends to maintain, manage, and improve the District transportation system over the next 20 years. The DSMP is developed in partnership with regional and local transportation planning agencies. The DSMP summarizes 20 year planning concepts and proposed transportation improvements on a system wide level, and influences the development of future transportation concepts and development plans. It integrates land use, modal opportunities, regional arterial plans, transportation system management, transportation demand management, highway system improvements, and the District highway network into a comprehensive transportation program. The DSMP serves as the foundation for the TSDP and the TCRs.

The Transportation System Development Plan (TSDP) is an internal Caltrans system planning document. Its purpose is to identify by district a reasonable and effective list of multimodal transportation improvements (infrastructure/capital outlay), strategies, and demand and system management options to improve statewide, interregional and regional mobility and intermodal transfer of people and goods. It includes both a Recommended Plan and a Cost Constrained Plan component, and categorizes improvements into two time frames, 2001-2015 and post-2015. It is based on analysis of current and projected future travel demand. The TSDP replaces the District 11 Route Development Plan.

The TSDP is an internal "sketch" planning document that broadens the Department's assessment of mobility options at an early preliminary planning stage. It expands system planning from a basic analysis of state highway route deficiencies to a larger integrated intermodal and multimodal analysis of travel corridors. The TSDP joins the principles, practices, and concepts of the Advanced Transportation System Development (ATSD) program to system planning.

Improvements, strategies, and system management options identified in the TSDP will be Caltrans "candidates" for further detailed examination in state, metropolitan, regional or local studies and processes. The TSDP is also the Department's initial identification of areas under consideration for major investment studies (MIS) with metropolitan agencies and rail/transit operators.

The TCR process was discussed in the Transportation Concept Summary.

ROUTE DESCRIPTION

The western terminus of State Route 78 (SR-78) is in San Diego County at the junction with Interstate 5 (I-5), Post-Mile (P.M.) SD 0.0. SR-78 extends 153.5 kilometers (km) (95.4 miles) east to the Imperial County line (P.M. SD 95.3). SR-78 is 131.6 km (81.8 miles) in length in Imperial County, and extends from the San Diego County line (P.M. IMP 0.0) to the north junction of the State Route 86 (SR-86) (P.M. IMP 13.17). At this point, there is a 24 mile route break of SR-78 between the north junction of SR-86 and the south junction of SR-86 (P.M. IMP 13.18E). Between P.M. IMP 13.17 and P.M. IMP 13.18E, the two routes share the roadbed, however this section is statutorily designated solely as SR-86. At this point, SR-78 again utilizes an independent alignment to the Riverside County line south of Blythe (P.M. IMP 80.7). Outside the District 11 jurisdiction, the route continues an additional 16.2 miles in Riverside County and terminates at Interstate 10 (I-10) in Blythe.

SR-78 was added to the State Highway System in five sections:

1. Former Route 196 from Rte. 5 to Rte. 15 in 1933.
2. Former Route 197 from Rte. 15 to Rte. 67 in 1933.
3. Former Route 198 from Rte. 67 to Rte. 86 (Salton Sea) in 1933.
4. Former Route 146 from Rte. 86 (Brawley) to the Imperial/Riverside County Line in 1959.
5. Former Route 146 from the Imperial/Riverside County Line to Rte. 10 in 1933. (Caltrans District 8 jurisdiction.)

SR-78 was added to the Freeway and Expressway System in 1959.

Purpose of Route

SR-78 is a principal east-west route which serves interregional, intraregional, commuter and recreational travelers as well as interregional goods movement. In San Diego County, SR-78 traverses the cities of Oceanside, Vista, San Marcos, Escondido and a portion of San Diego. SR-78 also serves the communities of Ramona, Julian and provides a northerly extension to Borrego Springs. The western portion of the route between Oceanside and Ramona is a major commuter route. The remainder of the route in San Diego County serves outlying rural communities and recreational areas, including the Cleveland National Forest, Cuyamaca Rancho State Park and Anza-Borrego State Park.

SR-78 serves interregional, goods movement and recreational traffic in Imperial County. It traverses the cities of Westmorland and Brawley and passes through the small rural communities of Alamorio, Glamis and Palo Verde before crossing into Riverside County.

It provides access to the Salton Sea Recreational Area and the Imperial Sand Dunes Recreation Area. SR-78 intersects a number of State routes, including I-5, I-15, SR-67, SR-79, SR-86, SR-111 and SR-115, prior to passing the District 11 boundary and terminating at I-10. The closest parallel State routes to SR-78 in San Diego County are SR-76, which varies between two and 15 miles to the north, and partially constructed SR-56, which is 15 miles to the south. In Imperial County, the closest parallel State Route to SR-78 is I-8, which is approximately 36 miles to the south.

Existing Facility Classifications

The functional classification for each segment of SR-78 is shown in Table 1. SR-78 from I-5 (P.M. SD 0.0) to Centre City Parkway (P.M. SD R17.3) is classified Other Principal Arterial - Freeway or Expressway. Centre City Parkway (P.M. SD R17.3) to Oak Hill Drive (P.M. SD 19.2); and SR-67 (P.M. SD 35.5) to 0.3 km (0.2 mile) east of Magnolia Avenue (P.M. SD 37.3), are both designated Other Principal Arterial. In Imperial County, the urban segments, from south junction SR-86 (P.M. IMP 13.2E) to east junction SR-111 (P.M. IMP 15.0) are both designated Other Principal Arterial. All of the other segments in both counties are designated Minor Arterial.

California Senate Bill 300, enacted in 1989, created an Interregional Road System. Subsequently, Section 164.3 of the California Streets and Highways Code directed Caltrans to develop and submit to the Legislature an Interregional Road System (IRRS) Plan by February 1, 1990. In accordance with this plan, the IRRS is a series of interregional state highway routes outside the urbanized areas that provides access to, and links between, the state's economic centers, major recreational areas, and urban and rural regions. SR-78 is part of the Interregional Road System (IRRS) from the San Diego urban/rural limit (P.M. SD 22.8) to the San Diego/Imperial County line (PM SD 95.3) and from the San Diego/Imperial County line to the District 11 boundary at the Imperial/Riverside County line (PM IMP 80.7).

The National Highway System (NHS) Designation Act of 1995 was enacted by Congress in November, 1995. The purpose of the NHS is to provide an integrated national highway system that serves both urban and rural America; to connect major population centers, international border crossings, ports, airports, public transportation facilities, and other major travel destinations; to meet national defense requirements; and to serve interstate and interregional travel. The new NHS includes the Interstate System routes. In Caltrans District 11, the NHS totals 789.0 km (490.3 miles). Two segments of SR-78 are part of the National Highway System (NHS): From the western terminus of the route (P.M. SD 0.0) to I-15 in Escondido (P.M. SD R16.5); and in Brawley from south junction SR-86 (P.M. IMP 13.2E) to east junction SR-111 (P.M. IMP 15.0).

The portion of SR-78 from I-5 (P.M. SD 0.0) to I-15 (P.M. SD 16.5) is a designated route in the National Network for Surface Transportation Assistance Act (STAA), a route system federally designated for use by larger trucks. The portions of SR-78 designated as a State Highway Terminal Access Route are between SR-67 (P.M. SD 35.5) and

Hatfield Creek (P.M. SD 40.4) in Ramona; between Borrego Springs Road (P.M. SD 85.6) and the North Junction of SR-86 (P.M. IMP 13.2); and between the South Junction of SR-86 (P.M. IMP 13.2) and the Riverside County line (P.M. IMP 80.7). In accordance with "Truck Kingpin-to-Rear Axle Length State Highway System Evaluation," December 1989, the portions of SR-78 from Bandy Canyon Road (P.M. SD 27.3) to Haverford Road (P.M. SD 33.8) west of Ramona has been identified as geometrically inadequate for use by truck tractor-semitrailer combinations having a greater than 38 foot kingpin-to-rear axle length, and Hatfield Creek (P.M. SD 40.4) to Borrego Springs Road (P.M. SD 85.6) has been identified as geometrically inadequate for use by truck tractor-semitrailer combinations having a greater than 30 foot kingpin-to-rear axle length.

To emphasize corridors that are most essential to the California economy in terms of national and international trade, a transportation network known as the Intermodal Corridors of Economic Significance (ICES) has been developed by Caltrans. To be included in the ICES system, a route should provide access between major freight intermodal facilities and serve freight traffic with the NAFTA countries of Canada and Mexico, as well as the Pacific Rim and other U.S. trade markets. The route should carry high interstate and international freight volumes and value important to the economy of California. The portion of SR-78 from the south junction of SR-86 (PM IMP 13.2E) to the west junction of SR-111 (PM IMP 13.8) is included in the ICES system.

The Caltrans District 11 designated International Border Trade Corridor (IBTC) system consists of transportation corridors which link ports of entry and international border regions to the existing transportation system. These corridors will be the principle conduits for movement of people and goods as the overall demand for transportation increases in and out of California and the United States. The portion of SR-78 from the south junction of SR-86 (PM IMP 13.2E) to the west junction of SR-111 (PM IMP 13.8) is included in the IBTC system.

SR-78 does not belong to the San Diego Region Oversize Load Highway System. It is not on the statewide list of Life Line Routes for earthquake emergency response.

SR-78 from the west boundary of the Anza Borrego Desert State Park (P.M. SD 71.9) to the east boundary (P.M. SD 90.1) is an Officially Designated State Scenic Highway and is on the California State Scenic Highway System. The portions of SR-78 from the junction of SR-79 (P.M. SD 58.7) to the west boundary of the Anza Borrego Desert State Park (P.M. SD 71.9), and from east boundary of the Anza Borrego Desert State Park (P.M. SD 90.1) to the north junction of SR-86 (P.M. IMP 13.2) are on the Master Plan of State Highways Eligible for Official Scenic Highway Designation.

For maintenance programming purposes, the State Highway System has been classified as Class 1, 2, and 3 highways based on the Maintenance Service Level (MSL) descriptive definitions:

MSL 1 contains route segments in urban areas functionally classified as Interstate, Other Freeway/ Expressway, or Other Principal Arterial. In rural areas, the MSL 1

designation contains route segments functionally classified as Interstate or Other Principal Arterial.

MSL 2 contains route segments classified as an Other Freeway/Expressway or Other Principal Arterial not in MSL 1, and route segments functionally classified as minor arterials not in MSL 3.

MSL 3 indicates a route or route segment with the lowest maintenance priority. Typically, MSL 3 contains route segments functionally classified as major or minor collectors and local roads, route segments with relatively low traffic volumes, and route segments being considered for relinquishment, rescission, or where a new alignment will replace the existing facility. Route segments where the District does not anticipate spending money and route segments where route continuity is necessary are also assigned an MSL 3 designation.

SR-78 is classified as MSL 2 from I-5 (SD PM 0.0) to the east junction of SR-79 (PM SD 58.1) and from the south junction of SR-86 (PM IMP 13.2E) to the East junction of SR-111 (PM IMP 15.0). The remainder of the route is classified as MSL 3.

Route Segments

SR-78 will be examined in 18 segments for traffic analysis purposes. Table 1 lists the segments for this route and includes some of the information used as criteria for segment divisions.

TABLE 1
ROUTE SEGMENTATION

	Segment/ County Post Mile	Location	No. Lanes/ Facility Type	Rural/ Urban	Functional Classification
1	SD 0.0 - 5.9	I-5 to Melrose Drive	6F	Urban	Other Principal Arterial - Freeway or Expressway
2	SD 5.9 - 12.1	Melrose to San Marcos Boulevard	6F	Urban	Other Principal Arterial - Freeway or Expressway
3	SD 12.1 - R16.5	San Marcos Boulevard to I-15	6F	Urban	Other Principal Arterial - Freeway or Expressway
4	SD R16.5 - T17.7	I-15 to Broadway	4F	Urban	Other Principal Arterial - Freeway or Expressway[1]
5	SD T17.7 - 19.2	Broadway to Oak Hill Drive	4C	Urban	Other Principal Arterial - Freeway or Expressway[1]
6	SD 19.2 - 22.8	Oak Hill Drive to Via Rancho Parkway	2C	Urban	Other Principal Arterial
7	SD 22.8 - 24.0	Via Rancho Parkway to Wild Animal Park	2C	Rural	Minor Arterial
8	SD 24.0 - 33.8	Wild Animal Park to Haverford Road	2C	Rural	Minor Arterial
9	SD 33.8 - 35.5	Haverford Road to SR-67	2C	Urban	Minor Arterial
10	SD 35.5 - 37.3	SR-67 to 0.3 km (0.2 mile) east of Magnolia Avenue	4C	Urban	Other Principal Arterial
11	SD 37.3 - 51.1	0.3 km (0.2 mile) east of Magnolia Avenue to north junction SR-79	2C	Rural	Minor Arterial
12	SD 51.1 - 95.3	North junction SR-79 to Imperial County line	2C	Rural	Minor Arterial
13	IMP 0.0 - 13.2	San Diego County line to north junction SR-86	2C	Rural	Minor Arterial
	Route Break				
14	IMP 13.2E - 13.8	South junction SR-86 to west junction SR-111	4C	Urban	Other Principal Arterial
15	IMP 13.8 - 15.0	West junction SR-111 to east junction SR-111	4C	Urban	Other Principal Arterial
16	IMP 15.0 - 18.7	East junction SR-111 to west junction SR-115	2C	Rural	Minor Arterial
17	IMP 18.7 - 21.0	West junction SR-115 to east junction SR-115	2C	Rural	Minor Arterial
18	IMP 21.0 - 80.7	East junction SR-115 to Riverside County line	2C	Rural	Minor Arterial

[1] Other Principal Arterial from Centre City Parkway (P.M. SD R17.3) to Oak Hill Drive (P.M. SD 19.2)

Existing Facility

The grades on SR-78 vary widely as the route traverses rolling hills near the coast, winds through the mountains and then crosses the relatively flat desert floor in Imperial County.

The type of facility for SR-78 ranges from a two lane conventional highway to a six lane freeway. Segments 1 through 3 are six lane freeways; Segment 4 is a four lane freeway; segments 5, 10, 14 and 15 are four lane conventional highways; the remaining segments 6, 7, 8, 9, 11, 12, 13, 16, 17 and 18 are two lane conventional highways.

A physical description of the existing facility in a segment-specific format is shown in Table 2.

TABLE 2
EXISTING FACILITY GEOMETRICS

Segment	County/ Post Mile	No. Lanes & Facility Type	Lane Width[1]	Outside Shoulder Width	Inside Shoulder Width	Max. R/W Width	Median Width	Grade Line
1	SD 0.0 - 5.9	6F	.3 -14.6 (24-48)	2.4-6.1 (8-20)	0.6-3.0 (2-10)	1.0 (200)	.4-6.7 (8-22)	R
2	SD 5.9 - 12.1	6F	.3-14.6 (24-36)	2.4-6.7 (8-22)	3.0-6.7 (10-22)	1.0 (200)	.7-14.0 (22-46)	R
3	SD 12.1 - R16.5	6F	.3 -14.6 (24-48)	2.4-3.0 (8-10)	1.5-3.0 (5-10)	1.0 (200)	.7-14.6 (22-48)	F
4	SD R16.5-T17.7	4F	.3 (24)	2.4-3.0 (8-10)	1.5-7.3 (5-24)	1.0 (200)	.1-14.0 (30-46)	F
5	SD T17.7 - 19.2	4C	.7-7.3 (22-24)	0.0-2.4 (0-8)	0.0 (0)	8.3-36.6 (60-120)	.0-3.7 (0-12)	F
6	SD 19.2 - 22.8	2C	.4-7.3 (11-24)	0.9-2.4 (3-8)	0.0 (0)	8.3 (60)	.0-3.7 (0-12)	R[2]
7	SD 22.8 - 24.0	2C	.4-7.3 (11-24)	0.9-2.4 (3-8)	0.0 (0)	8.3 (60)	.0-1.2 (0-4)	M
8	SD 24.0 - 33.8	2C	.4-7.3 (11-24)	0.6-2.4 (2-8)	0.0 (0)	8.3 (60)	.0-1.2 (0-4)	M
9	SD 33.8 - 35.5	2C	.7 (12)	1.5-3.0 (5-10)	0.0 (0)	8.3-30.5 (60-100)	0.0 (0)	R
10	SD 35.5 - 37.5	4C	.7-7.3 (12-24)	3.7 (12)	0.0 (0)	8.3 (60)	0.0 (0)	R
11	SD 37.5 - 51.1	2C	.7-4.9 (12-16)	0.0-2.4 (0-8)	0.0 (0)	8.3 (60)	0.0 (0)	M
12	SD 51.1 - 95.3	2C	.7-4.9 (9-16)	0.0-2.4 (0-8)	0.0 (0)	8.3 (60)	0.0 (0)	M[3]
13	IMP 0.0 - 13.2	2C	.4 (11)	1.8 (6)	0.0 (0)	1.0 (200)	0.0 (0)	F
14	IMP 13.2E-13.8	4C	.7-7.6 (22-25)	2.4 (8)	0.0-2.4 (0-8)	1.0 (200)	.0-3.0 (0-10)	F
15	IMP 13.8 - 15.0	4C	.7-7.6 (22-25)	2 .4-3.4 (8-11)	0.0 (0)	1.0 (200)	.0-3.0 (0-10)	F
16	IMP 15.0 - 18.7	2C	.7-6.1 (12-20)	0.0-2.4 (0-8)	0.0 (0)	1.0 (200)	0.0 (0)	F
17	IMP 18.7 - 21.0	2C	.1 (20)	0.0 (0)	0.0 (0)	8.3 (60)	0.0 (0)	F
18	IMP 21.0 - 80.7	2C	.7-7.3 (12-24)	0.0-3.0 (0-10)	0.0 (0)	8.3-91.4 (60-300)	.0-3.7 (0-12)	F[4]

F = Flat
R = Rolling
M = Mountainous
2C/4C = Conventional Highway
4F/6F = Freeway
R/W - Right of Way

[1] Directional Travelway widths
[2] Flat from Oak Hill Drive (P.M. SD 19.2) to Birch Drive (P.M. SD 19.4).
[3] Flat from Borrego Springs Road (P.M. SD 85.6) to Imperial County Line (P.M. SD 95.3).
[4] Rolling from Ogilby Road (P.M. IMP 52.3) to Milpitas Wash Road (P.M. IMP 68.6).

Note: Widths are in meters
( ) Widths in feet

The location, direction and number of auxiliary lanes on SR-78 are shown in Table 3.

TABLE 3
EXISTING AUXILIARY LANES

Location	Direction	Number
I-5 to Jefferson Street	Westbound	1
I-5 to Jefferson Street	Eastbound	1
Jefferson Street to El Camino Real	Westbound	1
Jefferson Street to El Camino Real	Eastbound	1
Nordahl Road to I-15	Westbound	1
Nordahl Road to I-15	Eastbound	1
I-15 to Centre City Parkway	Eastbound	1
Centre City Parkway to Broadway	Westbound	1*

* designated as a preferential carpool lane

The remainder of this section discusses a variety of existing transportation conditions. Future transportation improvements are analyzed in the Concept Rationale section later in this report.

Freeway ramp meters are designed to maximize the freeway's full capacity, reduce traffic congestion and accidents, and reduce motorist delays by improving commuter peak period travel times. Metered ramps control the rate at which traffic enters the freeway. In many cases, special lanes are provided on these ramps for carpools, vanpools and buses. Central computer control ramp metering is responsive to real time traffic speeds, volumes and congestion levels, and the metering rate can be adjusted as appropriate. The only existing operational ramp meter on SR-78 is at the College Boulevard westbound on-ramp.

Jointly administered and operated by SANDAG, Caltrans, and the California Highway Patrol (CHP), the Freeway Service Patrol (FSP) alleviates traffic congestion by providing a contracted "roving" repair and tow service along designated urban freeway segments to remove vehicles stranded or disabled during peak commute hours. The FSP provides service on SR-78 between I-5 and I-15.

Park and ride facilities encourage and support the use of commuter or express transit and car/vanpooling for a portion of longer vehicle trips and consequently reduce vehicle miles of travel (VMT) within the San Diego region. There are several Park and Ride lots near or adjacent to SR-78. They are at the following locations.

- SR-78 at I-5
- SR-78 at College Boulevard (north side)
- SR-78 at College Boulevard (south side)
- SR-78 at Sunset Drive
- SR-78 at Broadway

There are a wide variety of transit options available within the SR-78 corridor. The North County Transit District (NCTD) currently provides express bus service on portions of SR-78. Express Route 310 provides service between Oceanside and University Town Center every 45-60 minutes. Express Route 320 provides service on SR-78 between Oceanside and Escondido every 30 minutes.

NCTD also provides local bus service on arterial streets parallel to SR-78 between Oceanside and Escondido.

There are a variety of intermodal transportation centers and transit centers within the vicinity of the SR-78 corridor. These include the Oceanside Transit Center, Escondido Transit Center and smaller transit centers in Vista, San Marcos and the Plaza Camino Real shopping center in Carlsbad.

There are additional specialized transit services within the SR-78 corridor, including FAST, a demand-responsive community shuttle service which serves Vista, Fallbrook and Ramona. In accordance with the transit service requirements of the Americans with Disabilities Act (ADA), complementary paratransit service is also provided within and adjacent to the SR-78 corridor.

Greyhound Bus Lines offers two buses per day in the morning from Escondido to Vista, and one bus daily at mid-day from Vista to Escondido. However, Greyhound does not use SR-78 to provide service between Vista and Oceanside. Those trips are routed through San Diego and Escondido. Greyhound offers no service to Ramona, Julian or Borrego Springs.

For the rural portions of SR-78 in San Diego county, the San Diego County Transit System routes 878 and 879 provide service on SR-78 between Escondido and Borrego Springs. One trip in the A.M. and one trip in the P.M. is provided on each line.

For Imperial County, The Imperial County Transit System is an intercity fixed route bus system, subsidized by IVAG, managed by the County Department of Public Works, and operated by a private transportation provider.

Public transit service in Brawley is provided by the Imperial County Transit Authority. Intracity service allows residents to reach local businesses. Intercity service is focused on transporting passengers south to Calexico, and north to Desert Shores and Bombay Beach. Transit service is also provided by Brawley Dial-a-Ride system. AIM transit, a dial-a-ride service for disabled persons, operates throughout Imperial County.

Few Greyhound Bus Lines routes utilize the SR-78 corridor to provide intercity travel. Trips between Escondido and Brawley are routed through Temecula, Riverside and Escondido prior to dropping down SR-86 to access Salton City, Westmorland and Brawley.

Bicycle facilities within the SR-78 corridor consist of a variety of bicycle lanes and routes on streets parallel to SR-78 There are existing bike lanes on portions of Vista Way, Santa Fe Avenue and Mission Road. Many of these bikeway facilities are utilized by a growing number of commuter bicyclists. A graphical depiction of these facilities and other bikeways throughout the San Diego region is shown on the SANDAG/Ridelink 1996 *San Diego Region Bike Map*.

ROUTE ANALYSIS

This section further discusses existing conditions and introduces future Post-1998 State Transportation Improvement Program (STIP)/No Build conditions and deficiencies for SR-78. This section also includes a land use/corridor growth and demographic analysis for existing and future conditions in this corridor.

Existing and Future (2020 No Build) Operating Conditions

Table 4 shows existing and future 2020 No Build operating conditions for SR-78. Existing conditions reflect 1997 data. The future conditions are based on the San Diego Association of Governments (SANDAG) Series 8 Regional Population and Employment forecasts for the year 2020 and Caltrans' traffic forecasts and are for planning purposes only. Future No Build conditions also assume the completion of only those projects in the local transportation sales tax program (TransNet) and the 1998 STIP.

TABLE 4
EXISTING AND FUTURE (2020 NO BUILD) OPERATING CONDITIONS

Segment/ County/P.M.	Location	Year	No.Lanes/ Facility Type	ADT	Peak Hour D/C	Peak Hour Operating LOS
1. SD 0.0 - 5.9	I-5 to Melrose Drive	1997	6F	117 400	0.87	D
		2020	6F	167 600	1.60	F3
2. SD 5.9 - 12.1	Melrose to San Marcos Boulevard	1997	6F	108 900	0.83	D
		2020	6F	167 800	1.51	F3
3. SD 12.1 - R16.5	San Marcos Boulevard to I-15	1997	6F	140 900	1.10	F0
		2020	6F	196 700	1.71	F3
4. SD R16.5-T17.7	I-15 to Broadway	1997	4F	65 100	0.82	D
		2020	4F	111 900	2.01	F3
5. SD T17.7 - 19.2	Broadway to Oak Hill Drive	1997	4C	18 100	0.40	B
		2020	4C	30 700	0.74	D
6. SD 19.2 - 22.8	Oak Hill Drive to Via Rancho Parkway	1997	2C	10 000	0.51	C
		2020	2C	30 300	1.56	F
7. SD 22.8 - 24.0	Via Rancho Parkway to Wild Animal Park	1997	2C	9 100	0.49	C
		2020	2C	26 500	1.47	F
8. SD 24.0 - 33.8	Wild Animal Park to Haverford Road	1997	2C	6 500	0.44	B
		2020	2C	21 200	1.36	F
9. SD 33.8 - 35.5	Haverford Road to SR-67	1997	2C	8 500	0.37	B
		2020	2C	19 900	1.03	F
10. SD 35.5 - 37.5	SR-67 to Magnolia Avenue	1997	4C	12 800	0.31	B
		2020	4C	22 700	0.58	C
11. SD 37.5 - 51.1	Magnolia Avenue to north junction SR-79	1997	2C	5 300	0.25	B
		2020	2C	6 700	0.31	B
12. SD 51.1 - 95.3	North junction SR-79 to Imperial County line	1997	2C	1 600	0.07	B
		2020	2C	3 200	0.15	B
13. IMP 0.0 - 13.2	San Diego County line to north	1997	2C	600	0.03	B
	junction SR-86	2020	2C	2 000	0.10	B
14. IMP 13.2E-13.8	South junction SR-86 to west junction SR-111	1997	4C	21 700	1.05	F
14 IMP L7.2-L10.8	SR-86/Fredericks or Del Rio to new west junction SR-111[1]	2020	4E	15 000	0.21	A
15. IMP 13.8 - 15.0	West junction SR-111 to east junction SR-111	1997	4C	16 000	0.86	E
15 IMP L10.8-L14.2	New west junction SR-111 to jct. existing SR-78 east of Best Road[1]	2020	4E	21 000	0.31	A
16. IMP 15.0 - 18.7	Junction existing SR-78 east of Best Road to west junction SR-115	1997	2C	3 300	0.15	B
16 IMP L14.2 - 18.7	New east junction SR-111 to north junction SR-115[1]	2020	2C	6 100	0.30	B
17. IMP 18.7 - 21.0	West junction SR-115 to east	1997	2C	2 900	0.14	B
	junction SR-115	2020	2C	6 300	0.31	B
18. IMP 21.0 - 80.7	East junction SR-115 to Riverside County	1997	2C	1 500	0.07	B
	line	2020	2C	3 200	0.17	B

[1]Assumes completion of the "Brawley Bypass. Postmiles shown reflect future alignment. ADT's shown for Segments 14 and 15 are on the Brawley Bypass. Additional traffic will be on the existing alignment SR-78 through Brawley.

Accident data for the three year period from April 1, 1995 to April 1, 1998 was analyzed for SR-78. Criteria used for determining an accident concern are based on whether actual total accident rates exceeded expected total accident rates by one and one half

times. Average accident data for segments of concern are listed in Table 5. For segments where a concern exists, safety improvements should be considered.

TABLE 5
ACCIDENT RATES PER MILLION VEHICLE MILES

Segment	Actual Total	Expected Total
14	5.44	2.51

SOURCE: Caltrans Traffic Accident Surveillance and Analysis System (TASAS)

Corridor Growth and Demographics

San Diego County

The SANDAG Series 8 Regional Population and Employment Forecast anticipates a population growth change in the San Diego region from 2,500,000 people in 1990 to 3,760, 000 people in 2015. This represents a 51 percent increase in population. Series 8 also projects a 45 percent increase in housing and 30 percent growth of the total labor force. This growth will require complementary land use and transportation improvements.

Table 6 shows current and projected population, housing and employment growth for selected jurisdictions within San Diego County. San Marcos, at 156%, has the highest projected growth rate in the County. In San Marcos and unincorporated areas, population is expected to grow at twice the rate of employment. San Diego and Escondido also expect much higher increases in population than employment. Oceanside, Vista and San Marcos can anticipate gains in the rates of employment greater than twice that of the entire region.

Table 7 shows population, housing and employment growth near SR-78 for a four mile wide corridor traversing San Diego County.

TABLE 6
POPULATION, HOUSING AND EMPLOYMENT GROWTH
SELECTED SAN DIEGO COUNTY JURISDICTIONS

Location	Year	Total Population	% Change from Base Year	Total Housing Units	% Change from Base Year	Total Employment	% Change from Base Year
Oceanside	1990	128 398	NA	51 109	NA	32 333	NA
	2000	162 011	26.2	58 901	15.2	35 940	11.2
	2005	175 323	36.5	64 276	25.8	44 879	38.8
	2015	207 476	61.6	77 592	51.8	59 003	82.5
Vista	1990	71 872	NA	27 418	NA	20 598	NA
	2000	86 395	20.2	30 425	11.0	23 212	12.7
	2005	90 117	25.4	32 033	16.8	29 337	42.4
	2015	96 037	33.6	35 101	28.0	36 805	78.7
San Marcos	1990	38 974	NA	14 476	NA	24 413	NA
	2000	64 627	65.8	22 058	52.4	27 124	11.1
	2005	79 464	103.9	27 551	90.3	33 486	37.2
	2015	99 897	156.3	35 519	145.4	43 121	76.6
Escondido	1990	108 635	NA	42 040	NA	45 932	NA
	2000	132 391	21.9	47 282	12.5	48 288	5.1
	2005	142 231	30.9	51 291	22.0	53 575	16.6
	2015	155 058	42.7	57 526	36.8	58 687	27.8
Unincorporated Areas	1990	398 764	NA	137 589	NA	117 003	NA
	2000	498 064	24.9	160 787	16.9	124 645	6.5
	2005	593 864	48.9	194 788	41.6	142 518	21.8
	2015	794 223	99.2	269 332	95.8	168 547	44.1
San Diego	1990	1 110 549	NA	431 722	NA	668 512	NA
	2000	1 314 248	18.3	473 187	9.6	687 978	2.9
	2005	1 409 990	27.0	513 371	18.9	742 947	11.1
	2015	1 573 656	41.7	591 437	37.0	822 468	23.0
San Diego Region	**1990**	**2 498 016**	**NA**	**946 240**	**NA**	**1 198 265**	**NA**
	2000	**3 004 434**	**20.3**	**1 054 734**	**11.5**	**1 251 962**	**4.5**
	2005	**3 267 254**	**30.8**	**1 158 559**	**22.4**	**1 380 067**	**15.2**
	2015	**3 763 253**	**50.6**	**1 371 971**	**45.0**	**1 561 394**	**30.3**

Source: SANDAG Series 8 Regional Growth Forecast, May 1995.

TABLE 7
POPULATION, HOUSING AND EMPLOYMENT GROWTH
SR-78 CORRIDOR SEGMENTS - SAN DIEGO COUNTY

Location	Year	Total Population	% Change from Base Year	Total Housing Units	% Change from Base Year	Total Employment	% Change from Base Year
I-5 to Melrose Drive	1990	58 493	NA	22 849	NA	21 135	NA
	2000	69 830	19.4	25 656	12.3	22 460	6.3
	2010	72 570	24.1	27 742	21.4	27 536	30.3
	2015	73 148	25.1	28 112	23.0	30 204	42.9
Melrose Drive to San Marcos Blvd.	1990	54 650	NA	20 645	NA	28 386	NA
	2000	70 970	29.9	25 158	21.9	28 662	1.0
	2010	79 434	45.4	29 193	41.4	40 355	42.2
	2015	80 311	47.0	29 605	43.4	44 451	56.6
San Marcos Blvd. to I-15	1990	25 748	NA	9 253	NA	16 666	NA
	2000	37 591	46.0	12 310	33.0	17 272	3.6
	2010	49 223	91.2	17 098	84.8	24 824	48.9
	2015	50 503	96.1	17 548	89.6	29 460	76.8
I-15 to Broadway	1990	14 036	NA	6 224	NA	11 228	NA
	2000	17 071	21.6	7 010	12.6	11 301	0.7
	2010	17 193	22.5	7 428	19.3	14 093	25.5
	2015	17 068	21.6	7 446	19.6	15 965	42.2
Broadway to Oak Hill Drive	1990	26 090	NA	8 934	NA	9 526	NA
	2000	28 460	9.1	9 181	2.8	8 925	-6.3
	2010	29 754	14.0	10 038	12.4	10 315	8.3
	2015	29 583	13.4	10 031	12.3	11 073	16.2
Oak Hill Drive to Via Rancho Parkway	1990	13 196	NA	5 277	NA	3 957	NA
	2000	14 758	11.8	5 528	4.8	3 989	0.8
	2010	18 653	41.4	7 041	33.4	4 244	7.3
	2015	21 037	59.4	7 955	50.7	4 686	18.4
Via Rancho Parkway to Wild Animal Park	1990	81	NA	22	NA	403	NA
	2000	84	3.7	22	0.0	455	12.9
	2010	80	-1.2	23	4.5	1 123	178.7
	2015	70	-13.6	24	9.1	1 123	178.7
Wild Animal Park to Haverford Road	1990	3 158	NA	1 062	NA	961	NA
	2000	5 432	72.0	1 758	65.5	1 005	4.6
	2010	7 719	144.4	2 702	154.4	1 622	68.8
	2015	8 553	170.8	3 008	183.2	2 159	124.7
Haverford Road to SR-67	1990	4 109	NA	1 382	NA	1 741	NA
	2000	5 240	27.5	1 680	21.6	1 740	-0.1
	2010	6 096	48.4	2 077	50.3	2 189	25.7
	2015	7 368	79.3	2 659	92.4	2 349	34.9

TABLE CONTINUED ON NEXT PAGE

Location	Year	Total Population	% Change from Base Year	Total Housing Units	% Change from Base Year	Total Employment	% Change from Base Year
SR-67 to 0.3 km (0.2 miles)	1990	1 328	NA	416	NA	347	NA
east of Magnolia Avenue	2000	1 393	4.9	416	0.0	336	-3.2
	2010	2 310	73.9	717	72.4	380	9.5
	2015	4 284	222.6	1 354	225.5	409	17.9
0.3 km (0.2 miles) east of	1990	1 309	NA	487	NA	154	NA
Magnolia Avenue to north	2000	1 358	3.7	490	0.6	140	-9.1
junction SR-79	2010	1 423	8.7	503	3.3	152	-1.3
	2015	1 979	51.2	706	45.0	165	7.1%
North junction SR-79 to	1990	1 358	NA	816	NA	503	NA
Imperial County Line	2000	1 854	36.5	923	13.1	507	0.8
	2010	2 292	68.8	1 232	51.0	655	30.2
	2015	2 859	110.5	1 507	84.7	724	43.9

Source: SANDAG Series 8 Regional Growth Forecast, May 1995.

Imperial County

The seven incorporated cities of Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial and Westmorland account for three quarters of the total population of Imperial County. However, as more Specific Plan Areas (SPAs) are developed, the unincorporated areas are projected to have a 338.2 percent increase in population from 1990 to 2020, while the incorporated cities are expected to grow 95.8 percent in the same time period. A 157.5 percent increase in housing stock and a 94.9 percent growth in employment is projected for Imperial County between 1990 and 2020.

Imperial County is one of the most productive agricultural regions in the world. Since irrigation water was introduced in 1901, agriculture has been the single most important economic activity of Imperial County. Agriculture and its related industries employs 35.1 percent of the work force. Government is the second largest employer with 21.3 percent, followed by retail trade with 15.2 percent. Other significant contributors to the economy include winter visitors, State prisons near Calipatria and Seeley, the growing geothermal industry, mining, the second Mexico/USA border crossing at Calexico, and increased trade as a result of the North American Free Trade Agreement (NAFTA).

Brawley

The City of Brawley is situated at the intersection of SR-78, SR-111 and SR-86. The New River flows from the southwest to the northeast corners of the city, and the Union Pacific/Southern Pacific Railroad bisects central Brawley from north to south. Brawley is the third largest city in Imperial County, behind El Centro and Calexico. Its 1994 population of 21 738 is expected to increase 75.4% to 33 187 by the year 2020.

Brawley was settled by farmers and cattlemen working in the central part of Imperial Valley. It had once been a commercial center, and due to its location along the railroad, the city also served as an important trading and shipping center. However, these functions have declined with the development of El Centro and the shipping of agricultural products directly from the field.

The Brawley General Plan and Zoning Ordinance provides for the revitalization and expansion of commercial, residential and public properties, by allowing construction of a maximum of 8757 additional dwelling units for a total of 15 199 dwelling units, and a maximum of 2.2 million square meters (23.70 million square feet) of non-residential uses for a total of 2.8 million square meters (30.15 million square feet). These figures represent a 136 percent increase in residential uses and a 368 percent increase in commercial, industrial and public facility uses. Although buildout will result in a 41 percent reduction in agricultural lands, the city is committed to provide for the conservation of agricultural lands outside the Brawley urban area.

Westmorland

The City of Westmorland is located about 32 km (20 miles) north-northwest of El Centro at the junction of SR-78/86 and Forrester Road. It is a typical Imperial Valley farm community characterized by a mix of residential development, and small commercial and light industrial businesses. Westmorland had a 1994 population of 1 603, and is expected to grow to 2 944 by the year 2020.

Unincorporated Areas

Glamis is a small community which is situated east of the Algodones Dunes at the junction of SR-78 and the Union Pacific/Southern Pacific rail line that connects Niland and Yuma, Arizona. It is the center of off-road vehicle activity at the Algodones Sand Dunes and Osborne Scenic Overlook.

Further east, the community of Palo Verde is located on SR-78 just south of the Riverside County line. It primarily serves as a commercial center for travelers on the highway, employees in the surrounding agricultural and rural areas, the residents of the mobile home and recreational vehicle parks along the Colorado River and the small local population. The portion of the Palo Verde Valley that is within Imperial County includes 7 428 acres irrigated for agricultural use. Population in all the unincorporated

areas of Imperial County is expected to grow from 32,984 in 1994 to 119 889 in the year 2020.

Table 8 displays current and projected population, housing and employment growth for cities adjacent to SR-78 in Imperial County and the unincorporated areas of Imperial County. selected jurisdictions within Imperial County.

TABLE 8
POPULATION, HOUSING AND EMPLOYMENT GROWTH
SELECTED IMPERIAL COUNTY JURISDICTIONS

Location	Year	Total Population	% Change from Base Year	Total Housing Units	% Change from Base Year	Total Employment	% Change from Base Year
Brawley	1990	18 923	NA	5 791	NA	8 454	NA
	1994	21 738	14.9	6 247	7.9	9 129	8.0
	2000	22 586	19.4	6 829	17.9	10 244	21.2
	2010	27 294	44.2	8 472	46.3	11 732	38.8
	2020	33 187	75.4	10 779	86.1	13 465	59.3
Westmorland	1990	1 380	NA	408	NA	303	NA
	1994	1 603	16.2	443	8.6	371	22.4
	2000	1 702	23.3	502	23.0	431	42.2
	2010	2 254	63.3	662	62.3	509	68.0
	2020	2 944	113.3	889	117.9	601	98.3
All Unincorporated	1990	27 360	N/A	8 824	N/A	7 669	N/A
Areas	1994	32 984	20.6	9 578	8.5	9 408	22.7
	2000	39 422	44.1	13 397	51.8	14 204	85.2
	2010	75 149	174.7	24 207	174.3	20 600	168.6
	2020	119 889	338.2	39 369	346.2	28 051	265.8

*Source: Southern California Association of Governments, April, 1998

Another methodology to ensure compatibility between land use and the statewide transportation system is the Caltrans Development Review process. Potential future development projects are analyzed to determine what impacts they may have on State transportation facilities. Impacts can include level of service changes, right of way protection issues, operations and/or maintenance issues, or growth inducing/cumulative impacts. Development Review also analyzes proposed developments to ensure consistency with regional and State transportation planning documents.

Potential major development projects in the vicinity of the SR-78 corridor that may contribute to traffic congestion on area surface streets and state transportation facilities are shown in Table 9. It should also be noted that the table includes projects for which an Environmental Impact Report, a Specific Plan or a Master Plan has been or will be

prepared. Because of uncertainties associated with the existing and future socioeconomic and political climates, the scale of development may be subject to change, and it is possible that some of the listed projects may not be developed.

Proposed major developments that will generate at least 5 000 daily trips are shown in Table 9. Smaller projects that have the potential to create cumulative impacts to SR-78 and area surface streets are not shown.

TABLE 9
TRIP INDUCING MAJOR DEVELOPMENT PROJECTS

Segment	Proposed Development	Dwelling Units	Acreage in hectares (acres)	Trips Generated Daily
1	University Square Office and Comm.		8 (20)	14 000
1	Zocalo GPA			18 400
1	Buena Vista Park Plaza		39 (96)	14 700
1	Carlsbad Highlands	813		7 200
1	Ivey Ridge Estates			22 400
1	Del Oro Marketplace		3 (9)	7 300
1	Rancho Del Oro Village XII			11,300
1	Vista Gateway (B+ Project)		44 (109)	37 920
1	South Coast Park		86 (212)	20 500
2	North County Square		40 (100)	36 500
2	Questhaven/La Costa Meadows	2 000		54 800
2	San Marcos Creek Business Center		44 (108)	18 200
2	San Elijo Ranch			44 000
2	Upham Property		13 (33)	19 400
2	Rancho Santa Fe Business Center		18 (35)	9 600
2	Vista Business/Research Park		272 (672)	13 400
2	Melrose and Hacienda Shopping Centers		2 (5)	9 000
2	Vista GPA/Specific Plan	466	15 (37)	7 700
2-3	San Marcos Redevelopment Project Area			153 600
3	San Marcos State University		123 (304)	62 500
3	College Community Neighborhood #1	1 600		17 000
3	Hollandia Project			17 400
3	Vista Industrial Area Enterprise Zone		348 (859)	50 000
3	Centennial Square		24 (59)	13 300
3	Rancho Coronado	3 570	388 (959)	35 700
3	Vallecitos Village		20 (50)	32 200
3	Twin Oaks Valley Ranch	640	130 (320)	12 000
6	Valley View Estates	485	11 (27)	23 800
7	Eagle Crest	640	353 (872)	6 400
8	Cagney Properties	417	35 (87)	14 400
13	Kuhrts Property	595		6 000
14	Luckey Ranch		786 (1 942)	87 900

Source: Caltrans District 11 Planning Studies Branch

The 1993 Imperial County General Plan Update identifies several Specific Plan Areas (SPA) within the county that could have an effect on future operating conditions on SR-78 and other State highway facilities. The intent of the General Plan in regard to the SPA is to ensure that future development occurring within the designated areas is in conformance with the County's General Plan Land Use Element. Any new developments proposed within the SPA must have an approved Specific Plan prior to commencement of development activities. Table 10 lists the SPA most likely to have an effect on future operating conditions of SR-78.

TABLE 10
IMPERIAL COUNTY SPECIFIC PLAN AREAS (SR-78 CORRIDOR)

Segment	Imperial County Specific Plan Areas	Type of Development
14	Tamarack Canyon Ranch SPA	Resort/Recreational
14	Mesquite Lake SPA	Light, Medium And Heavy Industrial
22	Glamis SPA	Commercial/Retail/Services

Source: County of Imperial General Plan, 1993

TRANSPORTATION CONCEPT (2020)

The 2020 Transportation Concept includes State highway, transit service, system management and travel reduction, goods movement, International border, aviation and nonmotorized components. The State highway and transit components are listed in Table 11, while the other components are discussed in the Concept Rationale section. These components are examined in segments for traffic analysis and other purposes. The segmentation shown is for planning purposes only and is subject to change pending further studies or project related activities. The State highway component is comprised of the facility type and the number of lanes for 2020, the ADT for 2020, the peak hour Demand to Capacity (D/C) Ratio for 2020, the peak hour Operating Level of Service (LOS) for 2020, and the Transportation Concept LOS for 2020. The 2020 traffic projections for SR-78 are based on the San Diego Association of Government's (SANDAG) Series 8 regional population and employment forecasts and assume completion of the future regional transportation system. The 2020 traffic projections are subject to change based on periodic traffic forecasting model adjustments and ongoing supplemental transportation studies.

The 2020 peak hour Operating LOS includes all proposed transit service and State highway improvements. It also includes expansion and greater utilization of the existing arterial street network. Even with the inclusion of the proposed highway, transit and arterial improvements, and an increase in person trips, the 2020 peak hour Operating LOS for SR-78 for segments 1 through 4 will be deficient.

The 2020 Transportation Concept LOS is based on the SANDAG Congestion Management Program (CMP). The CMP minimum standard of LOS 'E' is the 2020

Transportation Concept LOS for most of the segments of SR-78 within the metropolitan area of San Diego County. The 2020 Transportation Concept LOS for Segment 1 is LOS 'F0'. This is based on the *1996 CMP Update* in the *SANDAG 1997 RTP*, which shows a 1995 LOS of F for the portion of Segment 1 from I-5 to College Avenue. The Concept LOS for the remainder of the route is based on Caltrans' system planning guidelines.

The 2020 peak hour Operating LOS is equal to or better than the minimum CMP standard in Segments 5 through 8 and Segments 10 through 18. In the remaining segments, additional improvements such as the implementation of Transportation Control Measure (TCM), Transportation System Management (TSM), and Transportation Demand Management (TDM) strategies will be needed.

TABLE 11
2020 TRANSPORTATION CONCEPT

	Segment/ County Post Mile	Location	No. Lanes/ Facility Type	ADT*	Peak Hour D/C Ratio	Peak Hour Operating LOS	Concept LOS
1	SD 0.0 - 5.9	I-5 to Melrose Drive	6F	152 600	1.34	F1	F0
2	SD 5.9 - 12.1	Melrose to San Marcos Boulevard	6F	154 700	1.28	F1	E
3	SD 12.1 - R16.5	San Marcos Boulevard to I-15	6F	176 400	1.43	F2	E
4	SD R16.5 - T17.7	I-15 to Broadway	4F	111 000	1.62	F3	E
5	SD T17.7 - 19.2	Broadway to Oak Hill Drive	4C	29 100	0.70	D	E
6	SD 19.2 - 22.8	Oak Hill Drive to Via Rancho Parkway	4C	29 400	0.80	D	E
7	SD 22.8 - 24.0	Via Rancho Parkway to Wild Animal Park	4C	25 500	0.65	C	D
8	SD 24.0 - 33.8	Wild Animal Park to Haverford Road	2C	12 900	0.82	D	D
9	SD 33.8 - 35.5	Haverford Road to SR-67	2C	18 400	0.95	E	D
10	SD 35.5 - 37.3	SR-67 to 0.3 km (0.2 mile) east of Magnolia Avenue	4C	21 600	0.51	C	D
11	SD 37.3 - 51.1	0.3 km (0.2 mile) east of Magnolia Avenue to north junction SR-79	2C	6 200	0.29	B	D
12	SD 51.1 - 95.3	North junction SR-79 to Imperial County line	2C	4 600	0.21	B	D
13	IMP 0.0 - 13.2	San Diego County line to north junction SR-86	2C	1 700	0.08	B	D
	Route Break	BEGIN BRAWLEY BYPASS**					
14	IMP L7.2 - L10.8	SR-86/Fredricks or Del Rio to new west junction SR-111	4E***	15 000	0.21	A	D
15	IMP L10.8 - L14.2	New west junction SR-111 to junction existing SR-78 east of Best Road END SR-78 PORTION OF BRAWLEY BYPASS	4E	21 000	0.31	A	D
16	IMP L14.2 - 18.7	Junction existing SR-78 east of Best Road to west junction SR-115	2C	6 100	0.30	B	D
17	IMP 18.7 - 21.0	West junction SR-115 to east junction SR-115	2C	6 300	0.31	B	D
18	IMP 21.0 - 80.7	East junction SR-115 to Riverside County line	2C	3 200	0.17	B	D

ADT = Average Daily Traffic
D/C = Demand to Capacity
LOS = Level of Service
6F = Six lane freeway
4E = Four lane expressway
2C = Two lane conventional highway

* ADTS for San Diego County are based on SANDAG Series 8 2020 (RTP Preferred) Traffic Forecasting Model Plots, July, 1996. ADTs for Imperial County are based on Caltrans' traffic forecasting projections.

** The post miles and location description for Segments 14,15 and 16 differs from the existing route segmentation described in Table 1 to reflect completion of the Brawley Bypass.

*** The Concept also includes a four lane expressway separate from and west of the Brawley Bypass on a new alignment. This alignment, known as the "Westmorland Bypass" has not yet been determined, but it will intersect with SR-86 west of Westmorland and proceed southerly and easterly around Westmorlanduntil it rejoins SR-86 near the western terminus of the Brawley Bypass.

CONCEPT RATIONALE

An intermodal approach is necessary in order to provide for the projected increased vehicle trips and person-trips in the SR-78 corridor. This approach utilizes a wide variety of transportation improvement components to help achieve the 2020 Transportation Concept LOS.

Highway Component

One aspect of the highway component includes projects originally derived from the SANDAG SR-78 Corridor Study. With the passage of Proposition A in 1987, $80 million ($97 million in current dollars) was set aside as the SR-78 TransNet Corridor Reserve. SANDAG has developed and revised a funding list for 44 projects between I-5 and I-15 (Segments 1-3). The projects are a mix of SR-78 interchange improvements, auxiliary lanes, ramp meters, and adjacent arterial street improvements. Some of these projects are either nearing project completion or are currently under construction. Table 12 lists these projects.

TABLE 12
SR-78 TRANSNET CORRIDOR RESERVE PROJECTS

Facility	From	To	Existing Lanes	Future No. of Lanes/ Classification
Cannon Road	Armada Drive	El Camino Real	-	4 /Major Arterial (MAJ)
Cannon Road	El Camino Real	E.of College Blvd.	2	4 (MAJ)
Palomar Airport Road	El Camino Real	Business Park Dr.	2	4/Prime Arterial (PA)
Centre City Parkway	SR-78	Mission Ave.	4	6 (PA)
Mission Road	Barham Dr.	Washington Ave.	2	4 (MAJ)
Mission Rd./Nordahl Rd.	Improve intersection		4	6 (MAJ)
SR-78	College Blvd.			Revised ramp alignments
SR-78	Emerald Drive			Bridge widening & ramp signals
SR-78	Vista Village Dr.			New interchange
SR-78	Escondido Ave.			Replace bridge & revise ramps
SR-78	Sycamore Ave.			Revise ramps
SR-78	San Marcos Blvd.			Revise ramps
SR-78	Twin Oaks Valley Rd.			Bridge work & revise ramps
SR-78	Escondido Blvd.			Widen bridge for westbound lanes
SR-78	Broadway			Intersection upgrades
I-5	Palomar Airport Rd.			Bridge widening & signalization
I-5	Oceanside Blvd.			Revise ramp
Cannon Road	Lake Blvd.	Melrose Drive	2	4 (MAJ)
College Boulevard	West Vista Way	Plaza Drive	4	6 (MAJ)
West Vista Way	Thunder Dr.	El Camino Real	2	4 /Collector (COL)
South Santa Fe	Vista City Limits	Woodland Parkway	2	4 (MAJ)
South Santa Fe	Woodland Parkway	Smilax Road	2	4 (MAJ)
South Santa Fe	Smilax Road	Rancho Santa Fe	2	4 (MAJ)
Sycamore Avenue	Vista City Limits	South Santa Fe	2	4 (MAJ)
Mission Road	San Marcos	Woodland Pkwy.	2	4 (PA)
Mission Road	Bougher Road	Barham Drive	2	4 (MAJ)
San Marcos Boulevard	Business Park Dr.	Rancho Santa Fe	2	4 (PA)
San Marcos Boulevard	Grand Ave.	Knoll Road	4	6 (PA)
San Marcos Boulevard	Knoll Road	Twin Oaks Valley	2	4 (PA)
San Marcos Boulevard	Twin Oaks Valley	Mission Ave.	-	4 (PA)
SR-78	@San Marcos Blvd.			Lengthen bridge for 6 lane UC
Emerald Drive	West Vista Way	Hacienda Drive	2	4 (COL)
Melrose Drive	West Vista Way	Hacienda Drive	4	6 (PA)
South Santa Fe Ave	Monte Vista Dr.	Vista City Limits	2	4 (MAJ)
Sycamore Avenue	University Dr.	Thibodo Rd.	2	6 (MAJ)
SR-78	@ Sycamore Ave.			Lengthen bridge for 6 lane UC
SR-78	@Melrose Drive			Lengthen bridge for 6 lane UC
SR-78	I-5			Widened connections & WB aux
SR-78	I-15			IC improvements
SR-78	@ 16 Interchanges			Ramp Meters
I-5	@ Palomar Airport			Ramp Meters
SR-78	El Camino Real	College Blvd.		EB Truck Climbing lane
SR-78*	Rancho Santa Fe			Bridge widening; WB on-ramp
West Vista Way*	Melrose Dr.	Thunder Dr.	2	4 (COL)

UC = Undercrossing
*Second tier projects (eligible only if above projects have received/encumbered funds)

Other projects in Segment 1 that are part of the Transportation Concept include revision of the SR-78/I-5 interchange and construction of a new interchange at SR-78/Rancho Del Oro.

The State highway component of the concept also includes upgrading Segments 6 and 7 (Oakhill Drive to the Wild Animal Park) from a mostly two lane conventional highway to a four lane conventional highway. This upgrade is included in both the January, 1997 SANDAG Regional Transportation Plan (RTP) and the Caltrans August, 1995 Transportation System Development Plan (TSDP).

For Segments 16 and 17 in Imperial County, the Concept includes the completion of the Brawley Bypass, a new four lane expressway. This expressway will extend from SR-86, northwest of the City of Brawley to SR-111, southeast of the City of Brawley. Upon completion of the Brawley Bypass, the portion of SR-78 through the City of Brawley from the south junction of SR-86 (PM 13.2E) to approximately 0.5 mile east of the east junction of SR-111 (PM 15.5) wil be relinquished to the City of Brawley or the County of Imperial. A Caltrans Project Study Report (PSR) examining alternatives was completed in March, 1993. A Caltrans Alternative Analysis Report was completed in May, 1997 to further evaluate expressway alternatives. The Caltrans SR-78 Brawley Bypass Major Investment Study (MIS) is currently being developed to detail alternative modal choices in the corridor. A Project Report/Environmental Document (PR/ED) for the Brawley Bypass is being prepared to study the environmental impacts of the expressway alternatives and is expected to be completed in late 1999. The 1996 State Transportation Improvement Program (STIP) programmed $25.1 million for the Brawley Bypass. The total cost of the project is $55.0 million. The 1998 Interregional Transportation Improvement Program (ITIP) recommends complete programming of the Brawley Bypass.

Transit Component

The transit component of the 2020 Transportation Concept for SR-78 includes a variety of transit modes such as light rail, express bus and local bus service.

Travel along the SR-78 freeway/Palomar Airport Road corridor, between the north San Diego County coastal and inland areas, produces the third largest travel corridor in the San Diego region. In order to accommodate this growth, light rail service is proposed between Oceanside and Escondido. This project is also listed in the Preferred Transit Plan of the January, 1997 SANDAG RTP, and is scheduled for construction between the years 2000 and 2010.

The North San Diego County Transit Development Board (NSDCTDB) and the City of San Marcos have evaluated a small-area transit system which would connect the civic center, California State University at San Marcos, and other activity centers south of the SR-78 freeway. Light rail, monorail and/or buses have been discussed as potential transit technologies to serve this area.

Additional express bus service is proposed in the Palomar Airport Road corridor between Carlsbad and San Marcos. Implementation of this service is proposed in the near future. Additional local bus service may also occur in the future as transit demand increases.

System Management and Travel Reduction Component

Another component of the concept is greater utilization and expansion of the existing and proposed arterial street network in the corridor. These arterial street improvements have been listed in Table 12, which is included in the Highway component section discussed earlier in this report. These arterial improvements are expected to substantially increase mobility and reduce peak period demands on the freeway. They can provide a route for short intraregional trips where existing arterials are inadequate or not present and act as an alternative route for some regional trips. Capacity of existing arterials within the corridor is affected by physical inadequacies, access conflicts, numerous traffic signals, and general traffic congestion. Corridor capacity can be increased by realignment and/or widening, correcting physical inadequacies, minimizing side friction, and improving the traffic flows of arterials within the corridor. Improvements towards these ends include preferential signal treatment, limitation and separation of left-turn movements, limited driveway and other access controls, and surface street HOV lanes for ridesharing and transit.

SANDAG has been coordinating the development of the *1995 Regional Arterial System (RAS) Project Priority List* which includes unfunded/underfunded candidate projects that could compete for future discretionary transportation funding allocations. An additional study related to arterial street improvements is the SANDAG *Traffic Signal Optimization Program* (April, 1994). This program was developed to enhance inter-jurisdictional coordination, to provide detailed guidelines for the implementation of a county-wide traffic management system, and to identify a conceptual plan for future implementation of Intelligent Transportation System (ITS) technologies. The proposed signal system improvements are expected to significantly reduce vehicle emissions and traffic congestion.

Another system management component is the development of the *Strategic Traffic Operation Plan for Southern California* (Preliminary Draft, January, 1997). This plan is being developed jointly by Caltrans' District 7 (Los Angeles), District 8 (San Bernardino), District 11 (San Diego) and District 12 (Santa Ana). The District 11 traffic operation actions focus on three key strategies: 1) completion of the Integrated Traffic Management System (ITMS); 2) implementation of the reversible. Managed Lanes Concept on I-5 and I-15, and; 3) the addition of auxiliary lanes at 27 locations throughout the District. In the Five Year Plan List of Projects in this report, traffic monitoring stations are proposed for SR-78 between I-5 and I-15.

TSM improvements are expected to optimize traffic flow on the existing transportation systems within the SR-78 corridor. Specifically, installed ramp meters will become operational at a variety of locations along SR-78, as shown in Table 13. Preferential

carpool lanes will also be provided on appropriate ramps where feasible to encourage high occupancy vehicle use.

TABLE 13
PROPOSED RAMP METERS

POST MILE	WESTBOUND	POST MILE	EASTBOUND
0.6	Jefferson Street	0.8	Jefferson Street
1.4	El Camino Real	1.6	El Camino Real
		3.6	Plaza Dr. (College Blvd.)
4.3	Emerald Drive	4.5	Emerald Drive
6.0	Melrose Drive	5.9	Melrose Drive
7.0	Sunset Drive	6.9	Sunset Drive
7.7	Mar Vista Drive	7.7	Mar Vista Drive
9.1	Sycamore Drive	9.1	Sycamore Drive
10.4	Rancho Santa Fe Road	10.7	Rancho Santa Fe Road
12.1	San Marcos Boulevard	12.1	San Marcos Boulevard
12.8	Twin Oaks Valley Road	13.0	Twin Oaks Valley Road
14.1	Woodland Pkwy/Richland Rd.		
		14.9	Barham Drive
15.3	Nordahl Road	15.6	Nordahl Road
17.1	Centre City Pkwy (SB to WB)		
17.3	Centre City Pkwy (NB to WB)		
17.7	Broadway		

An additional TSM measure in the 2020 Transportation Concept includes the provision of additional Park and Ride facilities in appropriate locations within the SR-78 corridor. The consultant prepared *San Diego Regional Park and Ride Study* (March, 1994) analyzed and evaluated several planned and potential Park and Ride lot locations throughout the San Diego region, including the SR-78 corridor. Potential future Park and Ride lot locations include:

- SR-78 at Woodland Parkway
- SR-78 at Marron Road/Monroe Street
- SR-78 at Marron Road/El Camino Real
- SR-78 at Vista Way/Grapevine Road
- SR-78 at Emerald Drive/Hacienda Road
- SR-78 at Melrose Drive
- SR-78 at Melrose Drive/Hacienda Court
- SR-78 at Sycamore Avenue/Shadow Ridge Drive
- SR-78 at Barham Drive

In addition to the aforementioned Traffic Signal Optimization Program, air quality improvements will be achieved primarily by the implementation of TCMs. The goal of the *Transportation Control Measures for the Air Quality Plan* report developed by SANDAG in March, 1992 is to reduce traffic congestion and motor vehicle emissions in the San Diego air basin in order to meet the requirements of the state's Congestion Management Act, the California Clean Air Act of 1988, and the federal Clean Air Act Amendment of 1990. The components of this report include a commute travel reduction

program, a college travel reduction program and a goods movement /truck operation control program; a Transportation Capacity Expansion Program; a Traffic Systems Management Program; and an Indirect Source Control Program which includes a general travel reduction program and a land use program. TCM improvements are intended to reduce travel demand during peak period traffic hours. Additional TCM components include staggered work hours, parking management, developer and employer incentives, and implementation of ordinances.

TSM and TCM air quality improvements tend to overlap and work synergistically. The total effect of these improvements will improve air quality, will assist in alleviating traffic congestion, and will result in an increased number of person-trips within the SR-78 corridor.

Goods Movement Component

Under the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, additional emphasis is being placed on the movement of goods in an integrated transportation network. It is essential to identify critical elements within major goods movement corridors in order to develop effective strategies for managing, maintaining and improving transportation system connectivity. Goods movement planning incorporates analysis of impacts on noise, air quality, land use, congestion and safety. Goods movement issues can have a significant economic impact on our regional economy. The movement of goods in San Diego involves the systems of rail, ports and shipping, trucking, and air cargo.

There are two primary rail haulers of freight in the San Diego region. They are the Burlington Northern Santa Fe (BNSF) and the San Diego and Imperial Valley (SDIV) railroads. Under an agreement made as a part of the purchase of 82 miles of BNSF right-of-way within San Diego County, BNSF maintains a freight easement over the 62 miles of coastal mainline and the 20-mile branch line between Escondido and Oceanside within the SR-78 corridor.

Field crops and citrus are grown in the San Pasqual Valley. Avocados are grown on the surrounding hillsides. There are important poultry and egg farm operations in the Ramona area which require fertilizer, feed, poultry and eggs to be transported. These goods are generally transported by commercial trucks.

As indicated in an earlier section of this report, SR-78 is a crucial goods movement route in Imperial County. SR-78 is part of the Intermodal Corridor of Economic Significance" (ICES) from the south junction of SR-86 (PM IMP 13.2E) to the west junction of SR-111 (PM IMP 13.8). The SR-78 Brawley Bypass proposes to relieve congestion on SR-78 in the city of Brawley, facilitate international and interstate movement of goods, and accommodate increased trade due to the North American Free Trade Agreement (NAFTA) and the General Agreement on Tariffs and Trade (GATT). This project will also accommodate anticipated growth in the Imperial Valley region. The Brawley Bypass corridor will provide the principal conduit for the movement

of goods and people as overall demand for transportation and goods movement increases.

The Imperial Valley is one of the world's most fertile agricultural areas, due to the rich, productive soil, abundant sunlight, flat topology and imported Colorado River water. The wide range of crops grown include vegetables, such as lettuce, carrots, onions, tomatoes, cauliflower and broccoli; animal feed, such as sudan grass and alfalfa; grains, such as wheat; sugar beets; melons; cotton; and various citrus, fruits and nuts. Seed crops, bee products and nursery plants are also produced.

Livestock production is the second major form of agricultural production, and includes beef cattle, sheep, wool, dairy products and swine.

Imperial County is rich in geothermal resources. While Imperial County is a national leader in the development of its geothermal resources, development has not progressed as rapidly as projected due to high operating costs, slow growth in utility company demand and the relatively low cost of oil.

International Border Component

The ISTEA requires studying the advisability of establishing a discretionary international border crossing program and the development of a multimodal assessment of existing and emerging international trade corridors within Canada, Mexico and the United States. Because of District 11's geographic location adjacent to the State of Baja California, Mexico, and the passage of the North American Free Trade Agreement (NAFTA), it is expected that transportation and trade issues related to the California/Mexico International border will increase in importance in the future.

In Imperial County, although the SR-78 corridor is some distance from the international border, it is still serves a vital role in the movement of international goods and services. Future construction of the SR-78 Brawley Bypass is a high priority. It will ultimately provide a high level expressway connection between the international border and Interstate 10 in Riverside County.

Aviation Component

The Aviation Component of the 2020 Transportation Concept for SR-78 includes McClellan-Palomar Airport, a general aviation facility located in the City of Carlsbad just south of the western portion of SR-78. McClellan-Palomar also functions as a commercial service, non-hub airport. There are currently two commuter air carriers serving McClellan-Palomar, American Eagle and United Express. In 1995, this airport accommodated 30,000 passengers, had 459 based aircraft and 204,191 annual aircraft operations. There are also 530 aircraft parking facilities.

A noise study and an update to the Comprehensive Land Use Plan (CLUP) for the airport was recently completed, and a new master plan for the airport is currently being prepared.

Non-Motorized Component

The Nonmotorized component includes continued utilization of the existing Regional Bikeway System, the Bus Bicycle Rack program, and the Bicycle Locker program at Park and Ride lots and transit centers.

Future bicycle facilities in the SR-78 corridor include development of the Route 78 Rail Trail. This will be a 21 mile commuter bikeway connecting the Oceanside Transit Center with the Escondido Multimodal Facility. It will primarily be a separate bicycle path with some portions developed as a bicycle lane on parallel surface streets. The non-freeway portions of SR-78 in San Diego and Imperial County are open for bicycle travel, and there are additional bicycle facilities parallel to SR-78 as it passes through the City of Brawley in Imperial County.

AIR QUALITY

Air Pollution Control Districts (APCDs) are responsible for developing air quality plans directed at meeting the National Ambient Air Quality Standards (NAAQS) set by the U.S. Environmental Protection Agency (EPA). The NAAQS identify specific pollutants and acceptable pollutant threshold levels for each region. Areas where a pollutant problem exists are classified as “non-attainment” areas. Deadlines for attainment of the NAAQS have ben specified in the federal Clean Air Act (CAA).

In San Diego County, SR-78 is located in the San Diego Air Basin. This air basin was originally designated as a nonattainment area for ozone (O_3) and classified as “severe” under both the State and federal Clean Air Acts. In July, 1993 the federal government lowered San Diego’s classification to “serious”; however, the State classification remained severe until recently when it was also lowered to “serious” by the State Air Resources Board. The San Diego region’s air basin is not expected to be in attainment with State and federal air quality ozone standards until 1999.

California submitted a request to the Environmental Protection Agency (EPA) for redesignation of San Diego from non-attainment to attainment for carbon monoxide (CO). After review by the EPA, San Diego is now designated as an attainment area for carbon monoxide as of June 1, 1998..

The 1988 California Clean Air Act (CCAA) requires the development of a new air quality plan from air districts that did not attain the State's standards in 1987. The San Diego County Air Pollution Control District (APCD) adopted the Regional Air Quality Strategy (RAQS) in June 1992. The plan incorporates strategies directed at reducing pollutants and increasing vehicle occupancy in an effort for the region to achieve the State's

standards. The RAQS will be implemented by the San Diego Air Pollution Control District, Caltrans, SANDAG, the transit operators, and the cities of this region.

As part of this RAQS, SANDAG has developed transportation related strategies towards attainment of the plans goals. These strategies are composed of Transportation Control Measures (TCM) programs planned to achieve the following requirements of the CCAA: a one and four-tenths minimum average vehicle occupancy during weekday commute hours by 1999, no net increase in emissions relative to population growth after 1997, and contribute to the required reduction in District-wide emissions of five percent per year, averaged every consecutive three-year period. The TCM program is comprised of the following measures: (1.) Transportation Demand Management (TDM); (2.) Transportation Capacity Expansion; (3.) Traffic Systems Management; and (4.) Indirect Source Control (ISC). The four measures of the TCM program and their tactics and elements are summarized in the outline that follows. A more detailed discussion of each measurecan be found in the aforementioned Regional Air Quality Strategy.

In Imperial County, SR-78 is located within the Salton Sea Air Basin. Air quality planning for Imperial County is administered through the Imperial County Air Pollution Control District (ICAPCD).

The regional emissions from within the Salton Sea Air Basin do not significantly affect the regional air quality in Imperial Valley. The only pollutants for which federal and/or state air quality standards have been exceeded in the ICAPCD area are ozone (O_3) and suspended particulates (PM_{10}). The standards for O_3 are exceeded only a few times a year in Imperial County. PM_{10} standards are exceeeded primarily due to field burning and travel on unpaved roads. Refuse burning in Mexicali, Mexico is an additional factor in the exceedance of PM_{10} within Imperial County, particularly in the southern portion of the county. The U.S. EPA and the Secretaria de Desarollo Social (SEDSOL) have agreed to bilateral participation in a particulate study between Mexicali and Imperial County. The study will include workshops on emission survey techniques, ambient sampler operation and maintenance, meteorological measurement systems, and training in particulate pollution modeling techniques.

INTELLIGENT TRANSPORTATION SYSTEM (ITS)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) calls for the creation of an economically efficient and environmentally sound transportation system that will move people and goods in an energy efficient manner. This can no longer be done simply by adding to the existing highway system. The Intelligent Transportation System (ITS) offers the potential to improve safety and efficiency in nearly every function of our complex multimodal transportation system by applying a broad range of diverse technologies. The U.S. Department of Transportation has defined an Intelligent Transportation Infrastructure (ITI) Program consisting of traffic detection, monitoring, communications and control systems required to support a variety of ITS products and services.

New Technology

ITI/ITS Programs offer the potential to deploy and operate traffic signal control systems, freeway management systems, transit management systems, incident management systems, electronic fare payment systems, electronic collection systems and multimodal traveler information systems.

Under the ISTEA ITS program, four transportation corridors in the nation have been selected to showcase coordinated intelligent transportation system elements. One of the priority corridors selected is the Southern California Intelligent Transportation Systems (ITS) Priority Corridor. This corridor lies within the major urbanized and adjacent non-urbanized areas of Ventura, Los Angeles, San Bernardino, Riverside and San Diego Counties and all of Orange County. In San Diego, I-5 is included as part of the corridor. ITS activities in the San Diego region include the innovative use of the existing solar powered freeway call box infrastructure, the operation of the multifunctional/multimodal Transportation Management Center (TMC), the provision of automated traffic operation information to fleet operators in the goods movement, transit, and hazardous material industries, and the development of an ITS International Border Crossing Operations Strategic Plan. Additional ITS technologies that could be utilized in the San Diego region include vehicle navigation systems, computerized roadway sensors, changeable message signs, and closed circuit television roadway monitoring devices.

Another related new technology is the future provision of an automated highway system (AHS). The ISTEA of 1991 mandated development of an automated highway and a vehicle prototype from which future fully automated intelligent vehicle highway systems can be developed. Caltrans is a core member of The National Automated Highway System Consortium, which was formed to specify, develop and demonstrate a prototype of a working AHS in the United States by 2001. AHS technology will consist of at least two major subsystems, including vehicles and infrastructure. AHS will showcase features such as adaptive cruise control, object detection, collision warning and avoidance systems, longitudinal and lateral vehicle control, maneuver coordination and navigation systems. The specifications will provide for evolutionary deployment that can be tailored to meet regional and local transportation needs. The Consortium will seek opportunities for early introduction of vehicle and highway automation technologies to achieve early benefits for all surface transportation users. In the San Diego region, an AHS Proof-of-Technical-Feasibility Demonstration was conducted in Summer, 1997 on the existing I-15 reversible HOV lanes.

Congestion Pricing Studies

An additional strategy that is being studied is congestion pricing, which is a direct market incentive to ensure that transportation system users pay the "real" costs of the transportation benefits they receive. One purpose of congestion pricing is to reduce travel demand. With the advent of technological advances such as electronic toll collection and traffic management (ETTM) and automatic vehicle identification (AVI)

systems, congestion pricing could be developed for a wide variety of transportation facilities. The ISTEA of 1991 provides funding of up to $25 million annually over the 1992-97 period to support Federal participation in congestion pricing pilot programs. SANDAG applied for and was awarded a federal technical assistance grant from the Federal Highway Administration (FHWA) for a two-phased pilot program which will allow single occupant vehicle drivers to “Buy-in” to the existing I-15 reversible HOV lanes. The intent of the this pilot program is to test market-based roadway pricing concepts to better manage traffic congestion and air quality in the region while raising revenues for the expansion of transit services and HOV facility improvements.

COMPARISON OF CONCEPTS

The purpose of this section is to document alternative Transportation Concepts that were considered. The Concept from the February, 1991 Route Concept Report (RCR) for the year 2010 is compared with this 1998 TCR for the year 2020.

In 1984, the original Concepts were set based on the SANDAG Series 6 Population and Travel Forecasts for the year 2005. The 1990 and 1991 Route Concepts were based on the SANDAG Series 7 Population and Travel Forecasts for the year 2010. The 1998 Transportation Concepts are based on the SANDAG Series 8 Population and Travel Forecasts for the year 2020. Table 14 is comprised of a segment by segment comparison between the 1991 Route Concept Report and this current updated Transportation Concept Report.

TABLE 14
COMPARISON OF CONCEPTS

1991 Route Concept for 2010 (Series 7 2010 Forecast)		1996 Transportation Concept for 2020 (Series 8 2020 Forecast)	
Location	**No. Lanes/ Facility Type/ Concept LOS**	**Location**	**No. Lanes/ Facility Type/ Concept LOS**
I-5 to Melrose Drive	6F + Aux./E	I-5 to Melrose Drive	6F/F0
Melrose to San Marcos Boulevard	6F + Aux./E	Melrose to San Marcos Boulevard	6F/E
San Marcos Boulevard to I-15	6F + Aux./E	San Marcos Boulevard to I-15	6F/E
I-15 to Broadway	4F/E	I-15 to Broadway	4F/E
Broadway to Oak Hill Drive	4C/E	Broadway to Oak Hill Drive	4C/E
Oak Hill to Via Rancho Parkway	4C/D	Oak Hill to Via Rancho Parkway	4C/E
Via Rancho to Wild Animal Park	4C/D	Via Rancho to Wild Animal Park	4C/D
Wild Animal Park to Haverford Road	2C/D	Wild Animal Park to Haverford Road	2C/D
Haverford Road to SR-67	2C/D	Haverford Road to SR-67	2C/D
SR-67 to 0.3 km (0.2 mile) east of Magnolia Avenue	4C/D	SR-67 to 0.3 km (0.2 mile) east of Magnolia Avenue	4C/D
0.3 km (0.2 mile) east of Magnolia Avenue to north junction SR-79	2C/D	0.3 km (0.2 mile) east of Magnolia Avenue to north junction SR-79	2C/D
North junction SR-79 to Imperial County line	2C/MO*	North junction SR-79 to Imperial County line	2C/D
San Diego County line to north junction SR-86 (RB)	2C/MO*	San Diego County line to north junction SR-86 (RB)	2C/D
South jct. SR-86 to north jct. SR-111	4E/D	SR-86/Fredricks or Del Rio to new west Jct. SR-111	4E/D
West jct. SR-111 to east. jct. SR-111	4E/D	New west Jct. SR-111 to jct. existing SR-78 east of Best Road	4E/D
East jct. SR-111 to west jct. SR-115	2C/D	Jct. existing SR-78 east of Best Rd. to west jct. SR-115	2C/D
West Jct. SR-115 to east Jct. SR-115	2C/D	West Jct. SR-115 to east jct. SR-115	2C/D
East junction SR-115 to Riverside County line	2C/D	East junction SR-115 to Riverside County line	2C/D

* MO = Maintain Only

Table 15 identifies the SR-78 segments where, with the Concept Facility in place, the 2020 Operating LOS remains at a deficient level. This table illustrates the LOS's that could be achieved by enlarging the facility beyond the Concept Facility size. For these segments the table lists increasingly larger facility sizes, starting with the number of lanes called for in the Transportation Concept and ending with the number of lanes required to achieve the CMP minimum standard of LOS 'E'. The Concept Facility information is shown on the line adjacent to the segment number. The larger alternative facility information is shown in italics.

The table shows that the addition of lanes to increase capacity may be necessary to achieve LOS "E". Due to high costs and associated impracticalities, these facility sizes are not proposed as the Transportation Concept for these segments.

TABLE 15
MAINLANES REQUIRED TO ACHIEVE IMPROVED LEVEL OF SERVICE

Segment	Location	Concept Facility/ Alternative Facilities	D/C Ratio	Peak Hour Operating LOS
1	I-5 to Melrose Drive	6F	1.34	F1
		8F	*1.10*	*F0*
		10F	*0.88*	*D*
2	Melrose Drive to San Marcos Blvd.	6F	1.28	F1
		8F	*106*	*F0*
		10F	*0.85*	*D*
3	San Marcos Boulevard to I-15	6F	1.43	F2
		8F	*1.18*	*F0*
		10F	*0.95*	*E*
4	I-15 to Broadway	4F	1.62	F3
		6F	*1.08*	*F0*
		8F	*0.81*	*D*

2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Table 16 shows improvements to SR-78 that are part of the 2020 Transportation Concept. This table does not include projects currently under construction. The peak hour D/C ratio and peak hour Operating LOS listed assume completion of the proposed highway improvements.

TABLE 16
2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Segment/ County/ Post Mile	Location	Improvement Description	Peak Hour D/C Ratio	Peak Hour Operating LOS	Concept LOS
1 SD 0.0	I-5/SR-78	Revise Interchange	1.34	F1	F0
1 SD 1.5 - 3.3	Rancho Del Oro/SR-78	Construct new interchange	1.34	F1	F0
1 SD 0.0 -5.9	I-5 to Melrose Drive	TransNet Corridor Reserve Projects*	1.34	F1	F0
2 SD 5.9 - 12.1	Melrose Drive to San Marcos Boulevard	TransNet Corridor Reserve Projects	1.28	F1	E
3 SD 12.1 - R16.5	San Marcos Boulevard to I-15 Oceanside to Escondido (North County Fair)	TransNet Corridor Reserve Projects Light Rail	1.43	F2	E
6 SD T19.2 - 22.8	Oak Hill Drive to Via Rancho Parkway	Upgrade from 2C to 4C	0.80	D	E
14 IMP L7.2 - L10.8	SR-86/Fredricks or Del Rio to new west junction SR-111	Construct 4E (Brawley Bypass)	0.21	A	D
15 IMP L10.8 - L14.2	New west junction SR-111 to junction existing SR-78 east of Best Road	Construct 4E (Brawley Bypass)**	0.21	A	D
IMP (undetermined)	SR-86 west of Westmorland to SR-86/Fredricks or Del Rio	Construct 4E (Westmorland Bypass)	0.14	A	D

LOS = Level of Service
D/C = Demand to Capacity Ratio

* A complete listing of these projects is shown in Table 12. Additional non-capacity increasing shorter term projects are shown in Caltrans Status of Projects listing.

** Upon completion of the Brawley Bypass, Segments 14, 15 and a portion of Segment 16 of SR-78 (PM 13.2 - 15.5) will be relinquished to the City of Brawley or the County of Imperial.

POST-2020 ULTIMATE TRANSPORTATION CORRIDOR

The post-2020 Ultimate Transportation Corridor (UTC) describes the long term (beyond the 20 year planning period) right of way requirements for a particular segment. The long term needs are determined by Advanced Transportation System Development (ATSD) activities which include investigation and analysis of Community Plans, General Plans, Transportation Plans, Land Use Plans, Environmental Documents, and other planning documents. The intent is to take advantage of or develop opportunities for long term right of way acquisition and to work with local and regional agencies to implement corridor preservation measures.

The UTC proposes the number of lanes, the facility type, and the potential right of way width in feet. This width can be variable depending upon the dimensions of cross-sectional elements and specific circumstances which may require narrow widths. Right of way width includes the roadbed, shoulder, clear recovery zone, and clearance from the right of way line to the catch point of the cut or fill slope. Additional right of way may be required for structures, slope modifications and drainage facilities.

The UTC number of lanes and facility type shown in Table 17 are primarily based on the San Diego County and City of Escondido General Plan Circulation Elements, and the Imperial County Transportation Plan. The potential right of way width is based on standards promulgated by the Caltrans Design Manual, Section 7-306.1. Other jurisdictions may utilize different right of widths based on their design standards. The right of way widths shown in the table should only be used as a guide. Actual right of way needed for future improvements should be determined through Caltrans' planning coordination with Caltrans project managers and local jurisdictions.

TABLE 17
ULTIMATE TRANSPORTATION CORRIDOR

Post-Mile	Location	No. Lanes/ Facility Type	Potential Right of Way Width
SD T17.7-27.2	Lincoln Parkway to San Diego East City Limits	4C	148'
SD 27.2-34.6	San Diego East City Limits to Cedar Street	2C	110'
SD 34.6-35.5	Cedar Street to SR-67	4C	148'
SD 35.5-37.3	SR-67 to 0.2 miles east of Magnolia Avenu	4C	148'
SD 37.3-70.0	0.2 miles east of Magnolia Avenue to San Felipe Road	2C	110'
SD 70.0-95.3	San Felipe Road to Imperial County Line	4C	148'
IMP 0.0-13.2	San Diego County Line to north junction SR-86 (RB)	2C	100'
IMP	Westmorland Bypass	4E*	
IMP L7.2 - 10.8	SR-86/Fredricks or Del Rio to new west junction SR-111	4E**	240’
IMP L10.8 - L14.2	New west jct. SR-111 to jct.existing SR-78 east of Best Road	4E**	240’
IMP 15.0-18.7	South junction SR-111 to north junction SR-115	2C	100'
IMP 18.7-21.0	North junction SR-115 to south junction SR-115	2C	100'
IMP 21.0-80.7	South junction SR-115 to RiversideCounty Line	2C	100'

* The UTC is a 4E separate from and west of the "Brawley-Bypass" on a new alignment. This alignment, known as the "Westmorland Bypass" has not yet been determined, but will intersect with SR-86 west of Westmorland and proceed around Westmorland until it rejoins SR-86 near the western terminus of the proposed "Brawley-Bypass". In addition, the minimum right of way width has not been determined at this time.

** The concept for the "Brawley-Bypass" is a 4E on an alternative alignment north of Brawley, from SR-86 to the south junction of SR-111. The right of way width is variable depending upon location.

Sources: Caltrans Highway Design Manual; San Diego County General Plan Circulation Element, September 1989; Escondido General Plan Circulation Element EIR, December 1989; Imperial County Department of Public Works.

LIST OF SYSTEM PLANNING ACRONYMS

ADA	Americans with Disabilities Act
ADT	Average Weekday Traffic
AHS	Automated Highwayu System
APCD	Air Pollution Control District
ATSD	Advanced Transportation System Development
AVI	Automated Vehicle Identification
BNSF	Burlington Northern Santa Fe Railroad
CCAA	California Clean Air Act
CHP	California Highway Patrol
CLUP	Comprehensive Land Use Plan
CMP	Congestion Management Plan
D/C	Demand to Capacity Ratio
DSMP	District System Management Plan
ETTM	Electronic Toll Collection and Traffic Management
F & E	Freeway and Expressway System
FHWA	Federal Highway Administration
FSP	Freeway Service Patrol
GATT	General Agreement on Tariffs and Trade
GPA	General Plan Amendment
HOV	High Occupancy Vehicle
IBTC	International Border Trade Corridor
IRRS	Interregional Road System
ISC	Indirect Source Control
ISTEA	Intermodal Surface Transportation Efficiency Act
ITI	Intelligent Transportation Infrastructure
ITIP	Interregional Transportation Improvement Program
ITMS	Integrated Traffic Management System
ITS	Intelligent Transportation Systems
IVAG	Imperial Valley Association of Governments
LOS	Level of Service
LROP	Long Range Operations Plan
MIS	Major Investment Study
MSL	Maintenance Service Level
NAFTA	North American Free Trade Agreement
NAHSC	National Automated Highway System Consortium
NCTD	North County Transit District
NHS	National Highway System
NSDCTDB	North San Diego County Transit Development Board
PHV	Peak Hour Volume
P.M.	Post Mile
PR	Project Report
PSR	Project Study Report

R/W	Right of Way
RAQS	Regional Air Quality Strategy
RAS	Regional Arterial System
RCR	Route Concept Report
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Governments
SD&IV	San Diego and Imperial Valley Railroad
SPA	Specific Plan Area
STAA	Surface Transportation Assistance Act
STIP	State Transportation Improvement Program
TASAS	Traffic Accident Surveillance and Analysis System
TCM	Transportation Control Measures
TCR	Transportation Concept Report
TDM	Transportation Demand Management
TMA	Transportation Management Association
TMC	Transportation Management Center
TSDP	Transportation System Development Plan
TSM	Transportation Systems Management
UC	Undercrossing
UTC	Ultimate Transportation Corridor
VMT	Vehicle kilometers (Miles) of Travel

LEVEL OF SERVICE (LOS) DEFINITIONS

LOS is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. An LOS definition generally describes these conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort and convenience, and safety. LOS definitions can generally be categorized as follows:

LOS	D/C	Congestion/Delay	Traffic Description
		(Used for all conventional highways)	
"B"	<0.45	None	Free to stable flow, light to moderate volumes.
"C"	0.46 - 0.65	None to Minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	0.66 - 0.85	Minimal to Substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
"E"	0.86 - 1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
"F"	>1.00	Considerable	Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds per vehicle.
		(Used for two and four lane freeways and expressways)	
"A"	<.34	None	Free flow.
"B"	0.35-0.52	None	Free to stable flow, light to moderate volumes.
"C"	0.53-0.69	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	0.70-0.92	Minimal to substantial	Approaches unstable flow,

			heavy volumes, very limited freedom to maneuver.
"E"	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.

LOS	**D/C**	**Congestion/Delay**	**Traffic Description**
		(Used for six lane freeways and expressways)	
"A"	< .39	None	Free flow
"B"	0.40-0.59	None	Free to stable flow, light to moderate volumes
"C"	0.60-0.74	None to Minimal	Stable flow, moderate volumes freedom to maneuver noticeably restricted
"D"	0.75-0.92	Minimal to Substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver
"E"	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor
		(Used for freeways with eight or more lanes)	
"A"	< .42	None	Free flow
"B"	0.43-0.62	None	Free to stable flow, light to moderate volumes
"C"	0.63-0.79	None to Minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted
"D"	0.80-0.92	Minimal to Substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver

"E"	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor

LOS	D/C	Congestion/Delay	Traffic Description
		(Used for freeways and expressways)	
"F0"	1.01-1.25	Considerable 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
"F1"	1.26-1.35	Severe 1-2 hour delay	Very heavy congestion very long queues.
"F2"	1.36-1.45	Very severe 2-3 hour delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
"F3"	>1.46	Extremely severe 3+ hours of delay	Gridlock

I approve this Transportation Concept Report as the guide for development of State Route 78 over the next 20 years.

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